

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LG DISPLAY CO., LTD,) Volume 5
)
 Plaintiff,)
)
v.)
)
AU OPTRONICS CORPORATION,)
AU OPTRONICS CORPORATION)
AMERICA, CHI MEI)
OPTOELECTRONICS)
CORPORATION, and CHI MEI)
OPTOELECTRONICS, USA,)
INC.,)
)
 Defendants.)

Monday, June 8, 2009
2:00 a.m.
Courtroom 4B

844 King Street
Wilmington, Delaware

BEFORE: THE HONORABLE JOSEPH J. FARNAN, JR.
United States District Court Judge

APPEARANCES:

BAYARD
BY: RICHARD D. KIRK, ESQ.
BY: STEPHEN B. BRAUERMAN, ESQ.

-and-

McKENNA, LONG & ALDRIDGE, LLP
BY: GASPARE J. BONO, ESQ.
BY: CASS W. CHRISTENSON, ESQ.
BY: LORA BRZEZYNSKI, ESQ.
BY: TYLER GOODWYN, ESQ.

Counsel for the Plaintiff

1 APPEARANCES CONTINUED:

2
3 YOUNG, CONAWAY, STARGATT & TAYLOR, LLP
4 BY: KAREN L. PASCALE, ESQ.
BY: JOHN SHAW, ESQ.

5 -and-

6 WILSON, SONSINI, GOODRICH & ROSATI
7 BY: RON E. SHULMAN, ESQ. ESQ.
BY: JULIE HOLLOWAY, ESQ.
8 BY: CRAIG TYLER, ESQ.
BY: GREGORY WALLACE, ESQ.

9 Counsel for the Defendants

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1 THE CLERK: All rise.

2 THE COURT: All right. Be seated,
3 please. Good afternoon.

4 THE COURT: Good afternoon.

5 MR. SHULMAN: Pardon me. Your
6 Honor, we have three witnesses today. The first
7 witness is Mr. Samuel Fu, who will -- it's about
8 a five-minute deposition read-in. Then we'll
9 have Dr. Silzars and then we will have a third
10 witness at the tail end today.

11 THE COURT: Okay.

12 MR. BONO: Your Honor, just a
13 couple of brief matters.

14 THE COURT: Sure.

15 MR. BONO: One is a housekeeping
16 matter. When we corrected the deposition
17 read-in from last week on the one sentence at
18 the tail end, I incorrectly identified the
19 deponent as In Duk Song.

20 And it should have been C.G. Kim.
21 And I'd just like to make that clear on the
22 record.

23 THE COURT: All right. The record
24 will reflect that change.

1 MR. BONO: Your Honor, I would
2 like to interpose an objection at this point to
3 what appears to be the planned testimony for
4 Dr. Silzars. From the exhibits we have been
5 provided and the slide we have been provided and
6 we think he's planned to testify for a couple of
7 hours. It makes it evident to us that they're
8 only putting Dr. Silzars on on the issue of
9 infringement and not just simply as rebuttal to
10 our invalidity case.

11 We believe this is improper. They
12 had put Dr. Silzars on last week for two hours
13 and 50 minutes of direct, and 25 minutes of
14 redirect. He was crossed for three and a half
15 hours on the issues of infringement.

16 They then rested their
17 infringement case. We raised no new issues in
18 our opposition to their infringement case with
19 our expert.

20 All of those issues were raised
21 during the cross-examination of Dr. Silzars and
22 they had a complete opportunity to put in
23 redirect any issues they wanted to raise.

24 It was our understanding that this

1 part of the case was to be rebuttal to the our
2 invalidity case. And it appears to us they now
3 are attempting to retry affirmatively their
4 infringement case.

5 We believe this is improper
6 rebuttal. The glaring example of this is on
7 Friday, June 5, we were given 63 proposed
8 exhibits. On the next day, on Saturday, we had
9 a proposed "rebuttal exhibit list" of 533
10 exhibits now from them. 469 out of those 400
11 '70 increased exhibits were originally on their
12 designated exhibit list for infringement for
13 purposes of Dr. Silzars' direct testimony.

14 We think it's fundamentally unfair
15 and inappropriate for AUO now to basically
16 sandbag us and basically retry in total their
17 infringement case.

18 THE COURT: Well, why don't you
19 let -- since there's no jury here and it's
20 unlikely if what you're saying is correct that
21 I've be influenced by it, and let them use their
22 time. You can file a motion to strike after you
23 have full presentation of the testimony if it's
24 along the lines you talk about.

1 All you've got to do is file a
2 motion to strike if you're correct.

3 MR. BONO: Thank you, Your Honor.

4 THE COURT: Ready to proceed?

5 MR. SHULMAN: Yes. Mr. Dietzel
6 and Mr. Long will read in the testimony.

7 THE COURT: Okay.

8 MR. DIETZEL: Your Honor, may we
9 approach with the binder?

10 THE COURT: Yes, you may.

11 MR. DIETZEL: Your Honor, my name
12 is Brian Dietzel, counsel for AUO. My
13 co-counsel, Xiang Long and I are going to be
14 reading in a few lines from the deposition of
15 Samuel Shih-Che Fu taken on January 19th, 2009.

16 I have given the court reporter a
17 hard copy of the transcript we're going to read
18 in and they're included in the binder we just
19 distributed.

20 I'll be reading the questions and
21 my colleague will be reading the witness's
22 responses.

23 Q. Could you please state your full
24 name for the record and spell it phonetically?

1 A. My name is Fu Shih-Che.

2 Q. When did you start working for
3 AUO?

4 A. In '02.

5 Q. And what was your position at that
6 time?

7 A. Engineer.

8 Q. With what department?

9 A. R & D department for new products.

10 Q. Mr. Fu, you are one of the
11 inventors of the '157 patent; is that correct?

12 A. Yes.

13 Q. You said earlier that you prepared
14 an invention disclosure document; is that
15 correct?

16 A. Yes.

17 Q. I'm marking what is plaintiff's
18 Exhibit 1227. It's Bates Nos. AUO-LGD0021090
19 through AUO-LGD0021094. Is this the document
20 that you have been -- we have been discussing?

21 A. Yes.

22 Q. Did you prepare this document?

23 A. I filled out much of this form.
24 However, the upper right-hand corner was not

1 filled out by me. That particular box was done
2 by folks from the legal department.

3 Q. Other than the box that you just
4 identified, did you fill out the remainder of
5 the invention disclosure?

6 A. Well, I did fill out this form.
7 However, these signatures were not mine.

8 Yes, I did fill out this form.
9 However, these signatures were done by
10 respective people.

11 Q. And what signatures are you
12 referring to?

13 A. At the bottom of the form, there
14 are several signatures.

15 Q. And whose signatures are those?

16 A. Well, there is my signature and
17 there are signatures by the second and third
18 inventors. And also there are signatures by the
19 first witness, second witness, as well as the
20 person in charge at the department level.

21 MR. DIETZEL: Your Honor, at this
22 time I would like to offer into evidence exhibit
23 AUO 0231 which corresponds to Fu deposition
24 Exhibit 1227 in the transcript we just read as

1 well as AUO Exhibit 0833 which is an English
2 translation of that exhibit.

3 THE COURT: It will be admitted.

4 MR. DIETZEL: Thank you, Your
5 Honor.

6 MS. HOLLOWAY: Good afternoon,
7 Your Honor. AUO calls its next witness,
8 Dr. Aris Silzars.

9
10 ARIS SILZARS, PH.D.,
11 the witness herein, having previously
12 been duly sworn on oath, was
13 examined and testified as follows:

14 DIRECT EXAMINATION

15 BY MS. HOLLOWAY:

16 Q. Good afternoon, Dr. Silzars.

17 A. Good afternoon.

18 Q. Were you in the courtroom last
19 week when Mr. Eccles was testifying?

20 A. Yes, I was.

21 Q. Mr. Eccles had a number of
22 critiques about your light measurement results
23 and calculations. Do you recall that?

24 A. I do.

1 Q. Were those critiques in his expert
2 report on noninfringement?

3 A. I did not find them in his expert
4 report.

5 Q. Did he describe them at his
6 deposition?

7 A. He did not.

8 Q. Now, Mr. Eccles testified that he
9 could not have provided those critiques based on
10 what was in your infringement expert report. Do
11 you recall that testimony?

12 A. I recall that testimony, yes.

13 Q. Is it true that Mr. Eccles could
14 not have provided those critiques based on the
15 information in your expert report?

16 A. I do not agree with that based on
17 the fact that I provided the raw data as well as
18 the analysis.

19 Q. What is the significance of you
20 providing the raw data in your expert report?

21 A. In addition to providing the
22 analysis, which showed the various percentages
23 and the various improvements that are obtained
24 by using the overdrive method that LG uses, I

1 provided the data that was taken directly from
2 the oscilloscope. In other words, the waveforms
3 were recorded, I provided a full description of
4 the tests methodology that I used, and the
5 intent for that was to allow LG's expert to do a
6 correlation, to do an independent analysis of
7 data as it is obtained during the experiment
8 itself.

9 Q. Thank you.

10 Let's talk a minute about what was
11 in your expert report. Could we have AUO
12 Exhibit 1085 up on the screen. And this is
13 quite a long document, so we'll just go through
14 a few pages.

15 Do you recall AUO 1085,
16 Dr. Silzars?

17 A. Yes, I do.

18 Q. About how many tests are in
19 exhibit AUO 1085?

20 A. We performed well over 100
21 independent tests, and that consists of well
22 over 200 separate waveform photographs taken
23 from the digital oscilloscope.

24 Q. Was everything in AUO 1085

1 provided in your expert report on infringement?

2 A. Yes, it was.

3 Q. Okay. Now, this first page is a
4 table and we've looked at similar information to
5 this table in summary form; is that right?

6 A. Yes. This is one of, I believe,
7 13 such measurement tables.

8 Q. Let's turn to the next page of the
9 document. And can you tell us what we're
10 looking at here, please?

11 A. What we're looking at here is the
12 actual waveform that -- the rectangles are
13 annotated. Those have been added.

14 And the horizontal lines on the
15 two left most photographs have been added. But
16 what we're looking at here is four examples of
17 digital capture of waveforms taken from the
18 oscilloscope and produced exactly as they were
19 captured during the measurements.

20 MS. HOLLOWAY: Okay. Bill, could
21 we see the next page of this document, please?

22 No. I'm actually looking for one
23 of the new bright blue pages I think with, yes,
24 yellow lines.

1 BY MS. HOLLOWAY:

2 Q. Yes. Dr. Silzars, this says
3 18A-3A. What is this an example of this
4 particular photograph here?

5 A. This is an example, as it is seen
6 on the test equipment on this oscilloscope. And
7 what this represents is, in fact, the
8 calibrating waveform that shows the starting
9 level, which would be to the left and the higher
10 level of white being detected on the right side.

11 So this is a way to -- for
12 example, the left side is 50 and the right side
13 is 200. That's the information that's being fed
14 into the display.

15 This would precisely tell us that
16 the level that's shown on the left is the level
17 represented by 50. And the level on the right
18 is represented by 200. In effect, it's a
19 self-calibrating system.

20 Q. And why did you include these
21 oscilloscope pictures such as the one we're
22 looking at here, this raw data as you say in
23 your expert report?

24 A. This was included, again, so that

1 if LG's expert chose to analyze the data, they
2 could -- he could see the accuracy of the data.
3 He could see exactly how the data was captured,
4 and he could add whatever other analytical
5 interpretation he wished to have.

6 Q. Did Mr. Eccles show the court any
7 analysis of the raw data from your expert report
8 last week?

9 A. He did not show any analysis of
10 the raw data.

11 Q. If there were any errors in the
12 raw data, could Mr. Eccles have done anything to
13 prove that there were errors?

14 A. The test set up is relatively
15 simple. It requires a digital oscilloscope that
16 is available from multiplicity of sources. The
17 photosensors that used a standard item that's
18 again available from any many sources. And
19 Mr. Eccles could readily have taken one of the
20 displays and repeats my measurements to point
21 out and to see if he could agree or disagree
22 with the outcome of my tests.

23 Q. And did we see any independent
24 test from Mr. Eccles last week?

1 A. To my knowledge, Mr. Eccles made
2 no such attempt and he certainly did not show
3 any such results during any of his testimonies.

4 Q. Now, let's look at what else was
5 in your report. Could we have Dr. Silzars
6 expert report on infringement of the '781, '160,
7 '157 and '069 patents up on the screen? This is
8 Exhibit AUO 1603.

9 Okay. And if we could turn to
10 Page 52, please. I'd like to focus on
11 Paragraphs 186 and 187.

12 Doctor, if you could just read
13 those paragraphs briefly and tell us what
14 they're about?

15 A. Yes. Paragraph 186 says, I
16 performed tests on the LC420WX8-SLA1 containing
17 the new Monde chips as follows. I measured the
18 light emitted by an area of the screen that was
19 uniformly illuminated (that is, each pixel in
20 the area was driven with the same gray level) --

21 Q. I'm sorry, Doctor. I think I was
22 not clear.

23 If you could briefly summarize
24 what we're looking at here, rather than reading

1 the entire two paragraphs in.

2 A. Okay. I'm sorry. You asked to
3 read, so I began to read.

4 Q. I meant to yourself. Sorry.

5 A. Okay. Yes, what is shown here in
6 Paragraph 186 and 187 is a description precisely
7 of the test methodology that I used and also the
8 test equipment that was used.

9 Q. Okay. In Paragraph 187, I see
10 mention of a photosensor. What is that please?

11 A. A photosensor is a generic term
12 for anything that detects light and converts it
13 into an electrical signal. In this particular
14 case, it was a photodiode.

15 Q. Would you expect a person in the
16 field reading your report to understand what
17 kind of photosensors you were describing in your
18 report?

19 A. Yes, I would. Photosensors for
20 this kind of application are very standard
21 products. They're available from a number of
22 sources. And they are typically a photodiode.

23 Q. Would you expect a person in the
24 field reading your report to understand that the

1 photodiode is linear?

2 A. Yes. Photodiode is a relatively
3 simple device.

4 It is a reverse bias diode and it
5 simply collects light. So for every photon,
6 every quantum of light coming in, it creates a
7 number of electrons, and those electrons are
8 what is generated.

9 If you double the number of
10 photons coming in, we double the number of
11 electrons coming out. So it's inherently a
12 linear device that responds to the amount of
13 light that it sees and simply translates that
14 into electrical current.

15 MS. HOLLOWAY: Okay. Your Honor,
16 we offer AUO 1603 into evidence.

17 THE COURT: Admitted.

18 BY MS. HOLLOWAY:

19 Q. Does a photodiode require
20 calibration as Mr. Eccles suggests?

21 A. Calibration usually means that
22 there is some sort of an adjustment possible.
23 Typically for test equipment, it's calibrated by
24 making sure that it responds with the right

1 timing with the right amplitude.

2 Photodiode or a photosensor has no
3 such calibration capability. There is no
4 adjustment that can be made, because it is a
5 device that is simply responds linearly to light
6 coming out.

7 Q. Would you expect an expert in your
8 field to know the photodiode does not require
9 calibration?

10 A. Absolutely.

11 Q. On the next page, please, of the
12 expert report, could you look at Paragraphs 188
13 through 190. And could you, again, just briefly
14 summarize for the Court what's being described
15 in those paragraphs?

16 A. 188 to 190 is a summary of the
17 light measurements that were made and let me
18 just scan them very quickly here.

19 It describes a test methodology I
20 used and why I chose that methodology.

21 Q. Is there sufficient information in
22 the paragraphs that we've looked at in your
23 expert report and in the test results that were
24 attached to your expert report for a person in

1 the field to analyze your results?

2 A. With the raw data that was
3 provided and the test methodology that was
4 described completely, anyone knowledgeable in
5 the field could certainly have looked at the
6 data, analyzed it, made whatever modifications
7 they might choose to make for analysis purposes,
8 and come to conclusions that were either similar
9 or different than the ones that I made.

10 Q. Is there sufficient information in
11 these paragraphs in your expert report and the
12 test results, Exhibit 1085, for a person in the
13 field to perform similar tests to see if he got
14 different results?

15 A. Yes. As I said earlier, the test
16 setup is relatively simple, it requires a
17 photosensor which could be of one's choosing, it
18 doesn't have to be the same as the one I used.
19 It would produce the same result and it requires
20 a digital oscilloscope, that's all that is
21 required and then the test can be performed and
22 the results that I obtained could be readily
23 duplicated.

24 Q. Would you expect a person in the

1 field who questioned the result of tests to do
2 such a test to perform his own test and make a
3 comparison?

4 A. If there was any doubt in test
5 results that are being looked at, that would be
6 absolutely the simplest thing to do. In this
7 case its very little time to set it up. So I
8 would definitely expect someone who had some
9 question of the validity of the results to
10 simply duplicate them and find that they were
11 erroneous or agreed.

12 Q. Did you see last week any critique
13 of your test or analysis or measurements that
14 could not be provided in Mr. Eccles' rebuttal to
15 your infringement report?

16 A. I did not.

17 Q. Mr. Eccles said something to the
18 effect that he didn't realize there were
19 problems with your photodiode and these supposed
20 problems were what really alerted him to the
21 supposed deficiencies in your analysis. Do you
22 recall that?

23 A. I do.

24 Q. And if I remember, he said that

1 the photodiode needed to be calibrated and
2 adjusted for eye response. Does that sound
3 right?

4 A. That does sound like what I recall
5 from his testimony.

6 Q. What do you say to the criticism
7 that the photodiode should have been calibrated?

8 A. In the case the specific comment
9 was that it should have been calibrated to the
10 eye response and that is something that the
11 photodiode itself does not do. As I already
12 explained, it's a linear device. It collects
13 photons and produces current. Any further
14 adjustment or modification of its response is
15 always done by circuitry that is attached to the
16 photodiode. Also, once the raw data is
17 available, the raw data can be used and modified
18 mathematically. It's an easy calculation to
19 make that if you wish to modify the linear
20 result for some other kind of response curve,
21 you simply superimpose the two and you get the
22 new result. So the data was already available
23 to do what Mr. Eccles was suggesting.

24 Q. So is it fair to say that if the

1 data needed to be adjusted for the eye response,
2 Mr. Eccles could have performed such
3 calculations and determined whether they made
4 any difference?

5 A. All the data was available for him
6 to do that.

7 Q. Okay. And with respect to
8 calibration of a photodiode, did you mention to
9 LG's counsel at your deposition that there is no
10 need to calibrate a photodiode?

11 A. Yes, I did.

12 Q. Could we have the Silzars
13 deposition transcript, May 1st, page 229, lines
14 9 through 21 up on the screen.

15 And I'm looking here at lines 9
16 through 21. Was that the testimony you were
17 referring to?

18 A. That is the testimony that I'm
19 referring to, and it's the same testimony that
20 I'm giving today.

21 Q. Okay. Now, Mr. Eccles argues that
22 the term -- I'm changing gears now -- the term
23 time integration quantity of a brightness change
24 is indefinite. Do you recall that?

1 A. I do.

2 Q. So according to Mr. Eccles, in
3 measuring time integration of a brightness
4 change, you must always start from zero and end
5 at zero. Is that what you understood him to be
6 testifying?

7 A. That is what I understood his
8 testimony to be.

9 Q. And is that correct?

10 A. I don't believe that's correct.

11 Q. What do you think the patent
12 teaches about the starting point and end point
13 for a brightness change?

14 A. I think the most compelling guide
15 that the patent provides is in the claims,
16 specifically Claim 1 itself, where it talks
17 about the integration quantity of a brightness
18 change, and with the emphasis on change. So the
19 claim itself is very, very clear on what the
20 patent is describing. And in addition to that,
21 throughout the patent it teaches how we should
22 make these measurements with regard to the
23 brightness change.

24 Q. I would like to focus on the white

1 board here, Claim 1. We have the claim language
2 you just referred to, time integration quantity
3 of a brightness change. I would also like to
4 have AUO 1085 at attachment 18H-17 up on the
5 screen. And then we can focus on the two curves
6 on the right-hand side.

7 Dr. Silzars, focusing on the claim
8 language, time integration quantity of a
9 brightness change, when going from one gray
10 scale to another gray scale, rather than simply
11 from off to on, how would one determine time
12 integration quantity of a brightness change?

13 A. With regard to again what the
14 patent language clearly states is that we are
15 required to look at the change in brightness,
16 not at some absolute value. So we have a
17 change, we have a starting point and we have an
18 ending point. In this case the starting point
19 is the lower level and the ending point is the
20 upper level.

21 And then in this case we again
22 return back to the lower level. So the change
23 is going from the first condition to the second
24 condition back to the first condition.

1 Q. And, Bill, could we have the whole
2 slide, please. What do those first and second
3 and first conditions in this instance?

4 A. In this instance, we have as I
5 said earlier, I used the oscilloscope as, in
6 fact, a self-calibrating system and what that
7 means is that the left most baseline, the
8 horizontal line on the left side in the left two
9 photographs is the level 50. When I put a level
10 50 into the display, that is the level of
11 brightness that the photosensor is measuring.

12 When I go to level 225, the
13 brightness jumps to the straight line on the
14 top, and we let it settle to the steady state.
15 So a flat line means steady state, increasing
16 waveforms mean change and, again, a flat line
17 means steady state.

18 Q. The two cases on the right-hand
19 side, the two curves, as you understand it you
20 calculated the time integration quantity of a
21 brightness change to be underneath those curves;
22 is that right?

23 A. Yes, the red rectangle represents
24 the ideal quantity for one frame, so we have had

1 a perfectly responding device, it would go from
2 level 50 and instantly jump to level 225 and
3 instantly come back to 50, and that would give
4 us the two rectangles that are in the
5 photograph.

6 The actual response from the
7 liquid crystal are the curves that are
8 superimposed on those rectangles. And in actual
9 fact the rectangles were superimposed later, the
10 curves are the raw data.

11 Q. Let's talk for a minute about one
12 of Mr. Eccles' slides. This is from Exhibit
13 LGD-1085 and slide 160-011. You can see my Elmo
14 ineptitude.

15 Now, with respect to this slide of
16 Mr. Eccles, did you understand him to be
17 testifying that when you did your calculations
18 of the quantity of light, you should have
19 included the area of the hatch marked portion on
20 the right-hand side? I'll just mark that so we
21 can be clear.

22 A. Yes, I see that.

23 Q. Okay. And was that what you
24 understood to be Mr. Eccles' opinion that the

1 part I've marked there should have been included
2 in your light calculations?

3 A. That's my understanding of his
4 opinion.

5 Q. And again, this wasn't in his
6 expert report?

7 A. That's correct, I did not find
8 that in his expert report.

9 Q. Okay. Is that area that I have
10 marked, the cross hatched area, part of the time
11 integration quantity of a brightness change as
12 recited in Claim 1?

13 A. Absolutely it is not. Claim 1
14 requires that you look at the time integration
15 quantity of brightness change, not what is
16 happening in the steady state. So we have to
17 focus on the changing part of the waveform and
18 not improperly add something that is a steady
19 state level which does not change as we make our
20 measurement.

21 Q. Looking at the figure on the right
22 here, in 160-011, what is the time integration
23 quantity of a brightness change shown in this
24 figure?

1 A. In this figure, the time
2 integration quantity of brightness change is the
3 green shaded area shown in that oscilloscope
4 photograph on the left in the left figure.

5 Q. Okay. And is the brightness
6 changing over time with respect to the curve
7 that defines that area?

8 A. The brightness is changing,
9 starting at the level 50 going to level 225 and
10 returning back to level 50 during the time that
11 that green shaded area in the left oscilloscope
12 photo is -- is indicated.

13 Q. Would a person of ordinary skill
14 in the art understand how to determine a time
15 integration quantity of brightness change when
16 you go from one gray level to another gray level
17 and back again as opposed to going off and on
18 only?

19 A. Certainly. In even reading the
20 plain language of the patent, I think that would
21 be clear.

22 But it's especially clear in
23 reading the entire patent specification and what
24 the patent teaches. It precisely describes how

1 to construct a look-up table and how to
2 calculate the compensation values to go from one
3 brightness change to another that is not
4 starting at zero and ending up at zero.

5 Q. Okay. And with respect to the
6 types of measurements that you made in your
7 Exhibit 1085, would a person of ordinary skill
8 in the art know how to make such measurements?

9 A. Absolutely. They could readily
10 look at the measurements that I made and
11 duplicate them.

12 MS. HOLLOWAY: Your Honor, we'd
13 like to mark this as our next exhibit, the slide
14 we've just marked, the LGD 1085, as Exhibit AUO
15 1599, and offer AUO 1599 into evidence.

16 THE COURT: It's admitted.

17 MS. HOLLOWAY: Let's have Figure 7
18 from the '160 patent up on the screen.

19 I'm sorry. I don't need the elmo
20 anymore, Bill.

21 BY MS. HOLLOWAY:

22 Q. Does the '160 patent teach how to
23 go from one gray level to another gray level?

24 A. Yes. This is the figure that I

1 just referenced a moment ago. And if we look at
2 this figure, we can see along the left side, the
3 left column it says previous brightness from
4 zero to 100, in this case using a scale where
5 100 is black and zero.

6 And then along the top row, we see
7 something identified as next brightness. And it
8 shows, again, a scale from zero to 100. So we
9 can begin at any brightness level that we
10 choose.

11 And the patent even teaches you to
12 interpolate between those numbers. But if we
13 choose a level of, let's say, 20 and we wish the
14 next brightness level to be 80, it shows us what
15 kind of a value that we would have in order to
16 achieve that brightness level.

17 And this is just exemplary. It's
18 not intended to encompass all situations.

19 This is an example that they, the
20 inventors provided for us. This would not be a
21 table that would be used in all cases.

22 Q. Could we have the '160 patent at
23 Column 9, Lines 40 through 56 up on the screen?

24 That's a little bit dense here,

1 but if you could explain what this passage is
2 explaining.

3 A. Yes, without reading the entire
4 excerpt here, what this passage describes is
5 that the precise methodology that one should use
6 if we start at a level other than zero and go to
7 a second level that is other than zero. So this
8 explains and teaches how to work with gray scale
9 values that are anywhere from full black to full
10 white and anywhere in between.

11 Q. Okay. Thank you.

12 Well, let's just assume, for the
13 sake of argument, that Mr. Eccles is right and
14 you are wrong and that you have to measure the
15 time integration quantity of brightness change
16 starting at zero and ending at zero. Okay?

17 A. Yes.

18 Q. Did you make any such
19 measurements?

20 A. I did make such measurements.

21 Q. Could we have Exhibit 1075 up on
22 the screen? And I know this is a big document,
23 but can you identify where those measurements
24 are on this Exhibit 1075?

1 A. Yes. This document represents, I
2 believe, 12 of the measurements that I made or
3 12 different products that I -- that I analyzed.

4 And if we look in each case, the
5 very first line, the top line of each group of
6 measurements shows a measurement going from
7 zero, which is black, to 200 and back to zero.
8 And that was done for every product that I
9 analyzed.

10 Q. Did Mr. Eccles have anything to
11 say about those tests yesterday or rather last
12 week?

13 A. I was very disappointed that it
14 appeared that Mr. Eccles was actually ignoring
15 all of those results. In none of his analysis
16 did he acknowledge that these tests were made
17 and presented in my expert report and in my
18 previous depositions.

19 Q. Okay. Well, let's take a look at
20 some of Mr. Eccles' slides critiquing your
21 examples in LGD 1085.

22 Could we first have Slide 160-010
23 up on the screen? Is Mr. Eccles correct that
24 this slide shows that you calculated the

1 quantity of light incorrectly?

2 A. He's not correct about that.

3 Q. What's wrong with what he's saying
4 here?

5 A. What he is saying that he is once
6 again ignoring that Claim 1, specifically of the
7 patent, says that we are making a time
8 integration of a brightness change rather than
9 the total brightness.

10 Q. In this Slide 160-010, does the
11 cross hatch area under the right-hand curve,
12 does that belong in the calculation of the
13 quantity of light?

14 A. It does not, because that is the
15 steady state brightness that has nothing to do
16 with brightness change.

17 Q. Could we have Slide 160-012? Is
18 Mr. Eccles correct that you're testing applied
19 the wrong level after correction?

20 A. He is not correct about that.

21 Q. And what's he saying wrong in this
22 slide?

23 A. He is, again, incorrectly reading
24 Claim 1 of the patent and adding steady state

1 brightness measurements when the patent clearly
2 talks about integration quantity of brightness
3 change. And that's what it teaches throughout
4 the patent.

5 So, once again, we have areas
6 added to the patent to this figure that have
7 nothing to do with what the teachings of the
8 patent are.

9 Q. Well, let's look at LGD 160-015 in
10 Exhibit LGD 1085. Is Mr. Eccles correct here
11 that this slide shows that you incorrectly
12 calculated a quantity of light?

13 A. No. I think this slide shows the
14 strange result that one achieves, really an
15 unexplainable result when we apply Mr. Eccles'
16 approach. We end up with a result that is
17 clearly nonsensical.

18 In this case, again, we're
19 calculating a brightness change here going from
20 the higher level to a lower level. And if we
21 use Mr. Eccles' approach, we end up with a
22 result that is not interpretable by anyone.

23 Q. Okay. So when you're going from a
24 higher value to a lower value and back again,

1 you've got a change in brightness in the
2 corresponding change in light?

3 A. Again, it's just a reciprocal of
4 what we did before. And we have to be able to
5 do this analysis, because we're talking about
6 real images, and real images will change from
7 brighter to darker as well as from darker to
8 brighter.

9 And, again, we are looking at the
10 change. That is what the patent is dealing with
11 is how to compensate for change, not how to
12 compensate for some steady state value.

13 Q. Now, Mr. Eccles also testified
14 that you disabled something called dynamic
15 contrast ratio. Do you remember that?

16 A. I remember that testimony.

17 Q. Did you disable any circuitry to
18 conduct your tests?

19 A. No. The only circuitry that was
20 disabled was the overdrive itself.

21 There is an option that's provided
22 on the remote control. This is the remote
23 control that any user would have for any
24 customer that buys the display. And it has

1 something on there that's called picture modes.

2 And within those picture modes,
3 some are brighter, some are dimmer. Some have
4 higher contrast, some have lower.

5 Some of those modes create a
6 nonuniform emission from the back light, and
7 other modes do not. I simply selected the mode
8 that had uniform emission from the back light,
9 and that's about half of the modes that's
10 available from the remote control.

11 So I did not disable anything
12 other than simply using the remote control
13 that's available to any customer that buys a
14 display.

15 Q. Did the selectable mode that you
16 just mentioned dim the backlight, dim the
17 backlight, did that impact the results of your
18 test?

19 A. When we pick one of the models and
20 backlight it adds some noisiness to the
21 measurement, but it does not impact the basic
22 result, it just makes it a little bit harder to
23 draw the curves.

24 Q. Let's turn to data compression. I

1 would like to have AUO Exhibit 1538 at page ten.
2 This is the binary front page encoding that
3 Mr. Eccles talked so much about.

4 Take a look at the matrix values
5 in the upper right corner. Did you hear
6 Mr. Eccles and LG's counsel going back and forth
7 about how the values in these matrix would be
8 realistic if you looked at bombs exploding in a
9 computer-generated image?

10 A. I do remember that testimony.

11 Q. Is there any discussion in his
12 expert report about how these values would be
13 realistic if you had computer-aided bombs
14 exploding on a screen?

15 A. I do remember that.

16 Q. Was it in his report?

17 A. I don't believe it was in his
18 report, I believe that only came up in the
19 courtroom testimony.

20 Q. Let's assume we are looking at
21 bombs exploding in a computer-generated image,
22 would those matrix values be a real reflection
23 of what one might see up on the screen?

24 A. I don't believe they would be. I

1 think what has to be appreciated is that this
2 matrix, the four-by-four represents a display,
3 part of a display that is about one-eighth of an
4 inch in size.

5 Q. You mean on each side?

6 A. On the side. One eighth of an
7 inch on the side. So what we're looking at is a
8 very, very, very tiny part of the display and we
9 are displaying these widely varying images here.
10 If a bomb is exploding, an entire screen lights
11 up, not little tiny pieces of it.

12 Q. How many sharp edges would one
13 have to see in this eighth of an inch square
14 area for these values to be realistic?

15 A. If we look at the high values, the
16 larger numbers that are the bright values, then
17 we look at the darker values, we see that we
18 would end up with a half a dozen very sharp
19 edges, so we would have bright and dark bright
20 and dark all within this one little eighth inch
21 area on the screen. I don't know of any real
22 images that ever have such drastic variations
23 over such a small area.

24 Q. Okay. Turning to the supposed

1 changes in the data caused by compression and
2 decompression. Let's look at page nine.

3 Let's focus on the block diagram.
4 Is it your understanding that Mr. Eccles is now
5 claiming that it's okay if the previous frame
6 has a whole bunch of errors in it because you're
7 not going to drive the display with the previous
8 frame brightness?

9 A. That's my understanding.

10 Q. Did he say that in his expert
11 report?

12 A. I do not remember reading that in
13 his expert report.

14 Q. Do you agree that the previous
15 frame brightness does not actually drive the
16 display?

17 A. I do agree with that, yes.

18 Q. Well, what does drive the display?

19 A. The display is actually driven
20 from the lookup table.

21 Q. If the previous frame is full of
22 errors due to compression and decompression,
23 would the output of a lookup table be reliable
24 information for driving the display?

1 A. If we feed erroneous information
2 into the lookup table, we would get erroneous
3 information out. I think using the traditional
4 computer terminology, garbage in, garbage out.

5 Q. Would that unreliable information
6 in turn impact the quality of the displayed
7 image?

8 A. Absolutely it would impact the
9 quality of what was finally displayed.

10 Q. Mr. Eccles also had a new
11 explanation for why LGD's response time is
12 different from what you identified response time
13 in your test results. Do you remember that?

14 A. I do.

15 Q. Do you recall what he had to say
16 about that?

17 A. What he had to say about that?

18 Q. Yes.

19 A. As I recall his interpretation is
20 now that the measurement is made from ten to
21 ninety percent rise time, but then when the
22 response is increased, we don't really measure
23 from ten to ninety percent, we keep the old
24 measurement and simply add something to the top.

1 Q. Is that a definition of response
2 time that you were previously familiar with it?

3 A. It's an incorrect definition of
4 rise time, and it's not one that I'm familiar
5 with either for rise time or for response time.

6 Q. What is the result as far as the
7 waveform of doing what Mr. Eccles described as
8 setting the rise time?

9 A. What would be the result is that
10 if in the first case we measure what would be
11 the traditional way of measuring rise time from
12 ten to ninety percent and then we now add
13 something to the top, but still retain the
14 measurement that we had before, we have now
15 changed the shape of the waveform. We have
16 reshaped the waveform. We have modified it to
17 change the total quantity of light.

18 Q. Let's talk about that in
19 connection with one of your test results. Can
20 we have AUO 1085, Attachment 18H-17. And can
21 you explain what you mean by shaping the
22 waveform in connection with this exhibit?

23 A. Yes. If you look at the lower
24 right-hand oscilloscope photo first, this is

1 with the overdrive disabled. And we see that it
2 rises from let's say ten to ninety percent in
3 just over one major division in the horizontal
4 direction. If we look at now the top right-hand
5 graph and that is with the overdrive enabled,
6 and see that again the rise time within the
7 rectangle occurs in just a little bit over one
8 division, so the rise time hasn't -- the
9 response time during that segment of the
10 response has not changed much at all.

11 What has happened is we have added
12 now an additional amplitude, an additional
13 response at the top of the waveform and we have
14 also changed the fall time, so the waveform has
15 been reshaped dramatically while the actual
16 response time during that period when it's
17 rising within the rectangular box has not
18 changed much.

19 Q. What is the result of the
20 reshaping of the waveform that we see in the
21 upper right-hand corner?

22 A. The resulting of the waveform and
23 being reshaped is changing this total integrated
24 quantity of light.

1 Q. You mentioned that part of the
2 response that goes beyond the desired
3 brightness. Does that have a standard name?

4 A. That would typically be called
5 some kind of overdrive, in a generic sense it
6 would be overdrive.

7 Q. Is the term overshoot a term that
8 applies to this picture?

9 A. Overshoot is a term that could be
10 used.

11 Q. What does undershoot means?

12 A. Undershoot is sort of the
13 reciprocal of that, that it doesn't quite get
14 there.

15

16

17

18

19 Q. Let's turn for a moment to the
20 input signal. I would like AUO proposed
21 construction up on the screen. This is AUO 1595
22 at 160003.

23 Now, did you hear Mr. Eccles say

24 that the input signal does not include a level

1 of intensity of light?

2 A. I believe what I really heard him
3 say is that the input does not include intensity
4 of light. I'm not sure that he included the
5 part about level.

6 Q. Okay. Does the input signal in
7 fact include a level of intensity of light?

8 A. Yes, it does. And it is typically
9 an analog voltage level, or it is a digital
10 level using our traditional gray scale values.

11 Q. Mr. Eccles testified that the term
12 substantially equal is indefinite. Do you
13 recall that?

14 A. I do recall that.

15 Q. Let's take a look at one of his
16 slides on indefinite, LGD 160-020, and this is
17 from LGD 1085. This includes Figure 3 from the
18 patent. Do you see that?

19 A. I do.

20 Q. What were the inventors doing when
21 they made the measurements that are in Figure 3?

22 A. In Figure 3, they were looking at
23 various types of products and looking at how
24 they responded and comparing response time, this

1 integrated quantity of light, and evaluating the
2 effect that response time did or did not have on
3 proving this integrating quantity of light.

4 Q. What sorts of images were the
5 inventors displaying when they did the analysis
6 discussed in Figure 3?

7 A. My understanding is from the
8 description of the patent that they were always
9 looking at wire frame models, which simply means
10 images that go from full black to full white and
11 then back to full black.

12 Q. Was there a phenomenon called
13 flicker that was relevant to this analysis?

14 A. Yes. In fact, the title to the
15 patent has the word flicker in it and what they
16 were doing was the perception of flickering of
17 the wire frame model when they were doing their
18 studies.

19 Q. Is the wire frame model the CAD
20 model that Mr. Eccles mentioned in his testimony
21 last week?

22 A. It would be -- a CAD model could
23 be a wire frame model.

24 Q. How difficult it for the LCD to

1 display a moving wire frame model as compared to
2 video moving images?

3 A. The wire frame model or any type
4 of image that has dramatic variations in
5 brightness that goes from full black to full
6 white back to full black, that is the most
7 challenging in terms of flicker and perception
8 of motion, because it stresses the performance
9 of the display and it's also something that our
10 eye is most sensitive to is dramatic changes in
11 brightness.

12 Q. Is video any less demanding to
13 display than the wire frame models?

14 A. Video is much less demanding
15 because it generally has a gradual variation of
16 colors and light, and it has less dramatic
17 variations typically.

18 Q. It's pretty hard to see in this
19 copy, but you can see in the third row of Figure
20 3 there is a Model C that Mr. Eccles did not
21 highlight on his slide?

22 A. I do see that.

23 Q. What percent of the ideal quantity
24 of light did Model C emit?

1 A. Model C is shown here as emitting
2 eighty-five percent.

3 Q. What does the triangle next to
4 Model C mean?

5 A. The triangle as we can find if we
6 have the actual document in front of us says
7 that it's an acceptable level.

8 Q. Does it say it's acceptable, can
9 we take a look at the next slide, Bill.

10 A. We can see in the highlighted area
11 in the lower left that this is a flicker, the
12 triangle indicates that the flicker level is
13 quite acceptable in the view of the inventors.

14 Q. So for this most demanding case,
15 the inventors believe that eighty-five percent
16 was quite acceptable for visual perception?

17 A. Yes, they did.

18 Q. Would a person of ordinary skill
19 in the art understand any lower figure to be
20 acceptable for displaying -- to be quite
21 acceptable for displaying video images as
22 opposed to wire frame CAD models?

23 A. Given that images such as we see
24 on television are less demanding and that this

1 is the most demanding situation, it would be
2 very reasonable to say that an eighty percent
3 level would be quite acceptable for a video
4 image such as shown on televisions.

5 Q. Would a variation of plus or minus
6 twenty percent be acceptable or over twenty
7 percent?

8 A. No, I think plus or minus twenty
9 percent would be quite acceptable.

10 Q. Okay. So would this inform -- a
11 person of ordinary skill in the art reading the
12 patent would understand by substantially equal
13 for the purpose of displaying video images?

14 A. Yes. One of ordinary skill in the
15 art could look at this teaching of this patent
16 and the experiments that were performed at IBM,
17 and they could -- they would clearly realize
18 this -- this is the most stringent condition.
19 This is the most difficult condition to display
20 and to be able to somewhat relax those
21 conditions for normal video images.

22 Q. Okay. Now, Mr. Eccles argued that
23 Figure 3 shows that 81 percent of the ideal
24 quantity of light is not acceptable. Do you

1 agree? And it was not acceptable for video.

2 A. It was I think in the context of
3 this patent and what the inventors were looking
4 at here. They found that they could see
5 perceptible flicker for this wire frame model.
6 I believe that with a video image, we would not
7 see such -- such a phenomenon.

8 Q. Now, Mr. Eccles also argued that
9 Model A, which emitted within two percent of the
10 ideal quantity of light is unacceptable because
11 of the slow response time. Do you recall that?

12 A. I do recall that.

13 Q. Did the inventors argue that
14 Figure 5A discloses a good response?

15 A. No. They were simply working on
16 analyzing these responses.

17 And I think you also have to --
18 have to put this in context. This work was done
19 at a time when 20 milliseconds response from a
20 liquid crystal display was actually considered
21 quite good.

22 So in the context of the time
23 frame of this patent and in the context of the
24 work that they were doing, that particular

1 comment, I think, is not applicable.

2 Q. Is Mr. Eccles correct that the
3 light emitted must be within a percent of two to
4 be considered substantially equal to the ideal
5 quantity of light?

6 A. That would only be a correct
7 statement with steady state images with very --
8 with patterns that are very close to each other
9 with very sharp edges. So if we look at a
10 steady image with a very crisp line running
11 through it, we may see that kind of variation.

12 It does not apply to moving
13 images.

14 Q. Is steady image the same as a
15 still image?

16 A. In my -- as I'm using the word,
17 yes, that would be a similar image like a
18 photograph.

19 Q. What about all those stories
20 Mr. Eccles had about how he observed a bunch of
21 slow moving video, and he said in one experience
22 he had, he and his colleagues "found we had to
23 be within ten percent" or "within five percent".

24 What do you say to that?

1 A. What was puzzling about that
2 description was that it seemed there was an
3 implication that it applied to the '160 patent,
4 but in actual fact, Mr. Eccles did not mention
5 what those percentages represented.

6 And in none of his testimony was I
7 able to glean that he was perhaps implying that
8 this meant ten percent of the integrated
9 quantity of light.

10 Q. And Mr. Eccles also said that he
11 found that "the range of acceptable brightness
12 in the frame could vary less than ten percent or
13 even down to two percent".

14 What does that mean?

15 A. Well, there's a possibility that
16 it could vary. I don't know that that results
17 in any particular kind of conclusion.

18 Q. And what would be the range of
19 acceptable brightness in the frame?

20 A. In one particular frame, we're
21 talking about changing from frame to frame. So
22 I'm not sure how to interpret this change of
23 brightness within one frame.

24 Q. Would changes of brightness within

1 one frame be relevant to the '160 patent?

2 A. That is not what the '160 patent
3 describes.

4 Q. Okay. Changing gears.

5 We have another slide for
6 Mr. Eccles on indefiniteness. Could we have LGD
7 1085 at LGD 160-22.

8 MS. HOLLOWAY: It's 22, Bill. Thank
9 you.

10 BY MS. HOLLOWAY:

11 Q. What do you understand Mr. Eccles
12 to be saying in this slide with respect to
13 overdrive?

14 A. What I understood from this slide
15 was that Mr. Eccles was saying that if we get to
16 an overdriven level, that then we don't really
17 know what the next level has to be, because we
18 now have modified what otherwise would have been
19 the result without overdrive.

20 Q. Is he in effect arguing that feed
21 forward overdrive is not workable?

22 A. What I see here is that with this
23 kind of argument, that it basically says that,
24 yes, that unless we have some way to deduce what

1 we've created, we don't know what to do next.
2 And that would apply to any overdrive scheme,
3 not just the one described in the '160 patent.

4 If knowing what happens next is a
5 requirement, then we don't have any overdrive
6 system that will work.

7 Q. Does the patent describe a feed
8 forward overdrive system?

9 A. I believe it does. Yes.

10 Q. How could you do feed backward
11 overdrive, to the extent that term is
12 meaningful?

13 A. Well, to the extent that term is
14 meaningful is -- somehow we have to detect what
15 we accomplish and then adjust the next waveform
16 based on that.

17 So the only way to detect what
18 we've accomplished would be to put a photo
19 detector or photosensor in front of the display,
20 detect the output of that photosensor, and then
21 modify the next frame based on what was actually
22 happening.

23 The problem, of course, with that
24 in a practical video display is you would have

1 to analyze the entire six million pixels, which
2 is clearly not possible. So that the only way
3 that is known today and it is actually used in
4 some medical imaging instruments for displays
5 for specialized applications where a photo
6 detector is actually used to then set a level,
7 and that then is used to adjust the display.

8 It is not done in any kind of
9 practical television system.

10 Q. And is that, this feed backward
11 that you've just described, is that what the
12 '160 patent requires?

13 A. No. The '160 patent absolutely
14 does not require that. It simply tells us what
15 to do frame to frame to frame.

16 Q. Now, I'd like to change gears
17 again. Mr. Eccles testified about a couple of
18 prior art references to the '160 patent: Mori,
19 Kido and Johnson.

20 Do either Mori, Kido or Johnson
21 expressly disclose using overdrive to obtain a
22 quantity of light substantially equal to the
23 ideal quantity?

24 A. Absolutely they do not.

1 Q. Do Mori, Kido or Johnson talk
2 about any kind of overdrive?

3 A. They talk about improving response
4 time.

5 Q. Could we have the '160 patent at
6 Column 2, Lines 2 through 12?

7 Do you understand what this
8 passage is relating to?

9 A. As I understand this passage, this
10 is relating to the Mori patent.

11 Q. Could we have Exhibit LGD 245 up
12 on the screen?

13 Okay. Is this the Mori
14 application, Doctor?

15 A. Yes, I believe it is.

16 Q. I'd like to focus on the abstract,
17 please.

18 MS. HOLLOWAY: I don't think that's
19 the abstract, Bill. I think the abstract is on
20 the first page. Very bottom.

21 BY MS. HOLLOWAY:

22 Q. And looking at the abstract of the
23 Mori patent, what is the Mori patent's purpose?

24 A. I think this is very simple and

1 elegant statement of the Mori patent. It's to
2 improve the speed of response to gradation
3 changes.

4 Q. Will speeding up the response time
5 results in a pixel emitting an ideal quantity of
6 light?

7 A. It will not, as we saw from the
8 IBM work of the '160 patent.

9 Q. Will speeding up the response time
10 result in a pixel emitting a quantity of light
11 that is substantially equal to the ideal
12 quantity of light?

13 A. It -- it is not. It could happen,
14 but it may not. There's no particular
15 relationship of response time to the ideal
16 quantity of light.

17 Q. Could we have Figures 5A and 5B of
18 the '160 patent? What do these figures show,
19 Doctor?

20 A. These figures though that, in this
21 case between Figure 5A and Figure 5B, that
22 speeding up response time actually reduced the
23 total quantity of light.

24 Q. Do either Kido or Johnson disclose

1 anything more than the cited Mori reference
2 regarding achieving a quantity of light that is
3 substantially equal to the ideal?

4 A. I don't believe they do.

5 Q. Mr. Eccles testified about the
6 Kido patent. Let's talk briefly about what
7 Kido's generally about.

8 Could we have LGD 297 up?

9 I think you already testified what
10 overdrive Kido describes. Does Kido describe
11 how to achieve a quantity of light that is
12 substantially equal to the ideal?

13 A. He does not.

14 Q. Does the phrase quantity of light
15 ever appear in Kido?

16 A. I did not find it.

17 Q. Let's look at what Kido does
18 disclose. Could we have Column 3, Lines 38
19 through 47?

20 And what does this passage
21 describe, Doctor?

22 A. This -- I think this is a good
23 summary of what the Kido patent is focused on.
24 And it is compensation to improve -- to obtain a

1 improved rise time or improved fall time.

2 Q. Can we look at Figures 1 and 2 of
3 the Kido patent? Do these figures disclose a
4 compensation signal?

5 A. Yes. What's interesting about
6 Kido is that he observed that the response time,
7 of course, has a rise time. It's not abrupt.

8 And his concept was that he -- if
9 he could add a waveform that was sort of the
10 opposite of that, so if he adds this -- if we
11 look at the lower left-hand corner of Figure 2B,
12 you see this overshoot kind of waveform.

13 And his thought was that by adding
14 such waveforms, he could compensate for this
15 slower response of the display.

16 Q. Will using the Kido compensation
17 signal necessarily result in the pixel emitting
18 a quantity of light that is substantially equal
19 to the ideal?

20 A. No, it will not.

21 Q. Okay. Could we have Figure 2B --
22 oh, we've got it right there.

23 And I believe Mr. Eccles said this
24 figure discloses an ideal response time. I

1 think he was referring to the lower right-hand
2 corner.

3 Does it?

4 A. I think this is a very conceptual
5 kind of a drawing. This does not show actual
6 results.

7 It shows a desired outcome that if
8 this waveform can be added, and it could be done
9 exactly the opposite way, then you would get the
10 ideal response in actual facts.

11 Liquid crystals simply don't
12 behave that way.

13 Q. Let's look at Kido at Column 5,
14 Lines 32 to 33.

15 Okay. And what is Kido telling us
16 here?

17 A. Well, he's telling us that the
18 perfect compensation that was indicated in that
19 little graphic in Figure 2B cannot be achieved.
20 And his desire is to create an improvement that
21 would get us toward this faster response time.

22 Q. Okay. Turning to Figure 2.

23 Is the compensation signal
24 waveform shown here an output brightness level?

1 A. No. It's simply a calculated
2 compensation voltage to try to compensate for
3 the response time of the liquid crystal.

4 Q. Is the after image elimination
5 circuit, which outputs to the compensation
6 waveform, a determinator for determining an
7 output brightness level?

8 A. No. It's -- it outputs
9 coefficients for this compensation waveform.

10 Q. Could we have Kido at 7, 61
11 through 68 up on the screen? What are the K1
12 and K2 referred to in this passage?

13 A. These are the compensation
14 coefficients that he uses to create this
15 compensating waveform.

16 Q. Are these brightness levels K1 and
17 K2?

18 A. They are not.

19 Q. Could we have Kido at 9, 27 to 33
20 up on the screen?

21 Do you see that this describes a
22 table for the coefficient circuit?

23 A. Yes, I do.

24 Q. Is that table a table for storing

1 a brightness level as required by Claim 2?

2 A. No, it's not. It is not.

3 It is, again, a table for storing
4 these coefficient, compensating coefficients.

5 Q. Does the table store a brightness
6 level for two or more color signals as required
7 by Claim 3?

8 A. No. That's not addressed in Kido.

9 Q. Okay. I'd like to turn to the
10 Johnson patent, LGD 318.

11 Looking at the abstract, what sort
12 of overdriving does Johnson describe?

13 A. This is again overdriving to
14 improve response time in effect.

15 Q. Does Johnson describe how to
16 achieve a quantity of light that is
17 substantially equal to the ideal quantity of
18 light?

19 A. He does not.

20 Q. Let's look at Figure 5 of Johnson.
21 What does this figure show?

22 A. This figure shows curve 28 as
23 being uncompensated and then Figure 29 being
24 compensated by higher voltage. And it shows

1 that when you get to the desired level which in
2 this case is the 60 percent transmission, you
3 simply turn it off, you stop.

4 Q. Is that the dotted line three?

5 A. That's the dotted line three, and
6 it can be compared to the voltages that are
7 shown in the upper left-hand corner as one, two,
8 three.

9 Q. Okay. And the overdrive example
10 shown here in Figure 5, when does the response
11 reach the desired brightness?

12 A. In this case it shows the desired
13 brightness at the end of the frame.

14 Q. If one used the Johnson overdrive
15 on both the rise and the fall, would the pixel
16 necessarily emit a quantity of light that is
17 substantially equal to the ideal?

18 A. No, it would not.

19 Q. Why not?

20 A. Because the total integrated
21 quantity is not being measured. All he's trying
22 to do in the Johnson patent here is achieve this
23 brightness. Once he gets to the brightness
24 level that is desired, he stops. So it has --

1 he is doing nothing to relate that to the total
2 quantity of light.

3 Q. I would like to move on to the
4 '629 patent. Now, Dr. Silzars, did you hear
5 Dr. Rubloff give an opinion regarding the
6 meaning of the limitation in Claims 7 and 16
7 last week that the quote, upper layer wiring
8 material does not become insoluble in an acid
9 or alkaline etchant. Did he give an opinion on
10 what that means?

11 A. I think he did, yes.

12 Q. Could we have the trial transcript
13 at 875, line 15, to 876, line 5. I would like
14 to focus on the language there is nothing in
15 these claims which specifies whether the
16 solubility in acid or alkaline is done in the
17 configuration of the dual layer. What do you
18 understand Dr. Rubloff to be talking about here?

19 A. What I understand here is that
20 somehow we should be looking at the solubility
21 or insolubility separate from the structure.

22 Q. That is the solubility of the
23 materials being separate and apart from the
24 wire?

1 A. That's what I understood. I was
2 very puzzled by that, but that's what I
3 understood his testimony to be.

4 Q. Did you know that was his opinion
5 before you heard his testimony last week?

6 A. No, I did not.

7 Q. So let's look now at 876, 15, to
8 877, 4. I'm looking at where it says I take a
9 vessel with the acid or the alkaline in it. I
10 take a piece of that metal and I see if it
11 etches or instead doesn't etch.

12 What did you understand
13 Dr. Rubloff to be saying here about the
14 limitation of Claim 7?

15 A. What I understand here is that he
16 would take a little beaker of acid or alkaline
17 solution and simply dunk the metal into it to
18 see if it etches. And that he would do this
19 separate from any structure.

20 Q. Okay. Considering the context of
21 the claim and focusing particularly on Claim 7,
22 does that interpretation of the limitation of
23 Claim 7 make any sense?

24 A. It doesn't make any sense to me

1 because the entire patent is dealing with
2 specific structures and in particular the
3 claims that are being asserted are dealing with
4 two-layer structures and how those are created.

5 Q. And by two-layer structures, are
6 you referring to the two-layer wires?

7 A. Yes. Well, I'm referring to the
8 two-layer metal that's used in the wiring, and
9 as it turns out also in the dummy patterns.

10 Q. In your opinion, in this claim
11 limitation, upper layer wiring material does not
12 become insoluble in an acid or alkaline etchant,
13 is the upper layer wiring material part of the
14 wiring in the claims?

15 A. It would have to be in order for
16 the claim to make any sense.

17 Q. Why is that?

18 A. Well, the configuration here is
19 that if the material does become insoluble,
20 then we have this condition where we have
21 undercutting, where the material underneath is
22 removed at a different rate. If we take it
23 separate from that configuration, then we have
24 nothing to talk about.

1 Q. In your opinion, what does this
2 limitation, upper layer wiring material does not
3 become insoluble in an acid or alkaline etchant,
4 mean in the context of the claim in the patent?

5 A. What this means is that we have a
6 two-layer structure, we're etching it to create
7 these wiring patterns. And if we encounter a
8 condition where the upper layer material becomes
9 insoluble, then we will not end up with the
10 correct structure. The insolubility is caused
11 by the etchant actually having too high a
12 concentration. It sounds counterintuitive, but
13 if the concentration get too high, a way to look
14 at is it's so concentrated it can no longer
15 absorb ions from the metal, it can't take ions.
16 It quits etching and the etching stops, it's
17 called a flade potential, F-L-A-D-E. And it's
18 phenomenon that's understood in the
19 electrochemistry industry and that is what we
20 are trying to avoid with the structure that's
21 described in this patent. It is structure
22 dependent.

23 Q. So Claim 7 requires that this
24 phenomenon that you just described does not

1 happen; is that fair?

2 A. That's fair.

3 Q. Dr. Rubloff also testified about a
4 product that used the GDS shown in Exhibit 1080,
5 which I would like to have up on the screen. Do
6 you remember this?

7 A. I do remember that.

8 Q. Was there a GDS printout in his
9 expert report?

10 A. It was not.

11 Q. He said that he was -- as I
12 understood, that he was showing that this
13 product which he said had no dummy patterns
14 didn't have a problem with undercut. Do you
15 recall testimony to that effect?

16 A. I recall that testimony.

17 Q. Do the GDS files associated with
18 exhibit LGD 1080 include any dummy patterns?

19 A. Yes, they do.

20 Q. And how do you know that?

21 A. I know that from having examined
22 the GDS files that correspond to this drawing.

23 Q. Can you see the dummy patterns
24 here in this first page of 1080?

1 A. In this particular drawing, they
2 are mostly covered up. One would have to look
3 very hard to realize that there are some dummy
4 patterns there, because the wiring is in this
5 orangey red, and it looks like there is no other
6 color like that on this illustration that's
7 before us. And that's not correct once the GDS
8 files are analyzed.

9 Q. What do you mean covered up?
10 Covered up with what?

11 A. We see in the lower left and right
12 side, we see this bluish pattern with it looks
13 like magenta instead of an orangey red above,
14 and we see the green squares, and those in
15 actual fact have dummy patterns underneath.

16 Q. Let's take a look at AUO 1610.
17 And could you tell us what Exhibit 1610 is,
18 please?

19 A. This is another version of that
20 GDS file. And this begins to show us where some
21 of the dummy patterns are, at least in this
22 segment.

23 Q. I was going to hand up a copy to
24 mark, but I don't seem to have one. Could you

1 indicate where the dummy patterns are on Exhibit
2 1610?

3 A. If we look at only this drawing
4 here, we see that there are dummy patterns at
5 the left end where the triangle comes to a point
6 and also at the very right most part where the
7 triangle comes to a point. All those patterns
8 that appear to have no connection, those are
9 dummy patterns. The little reddish square
10 that's part way in, that's a dummy pattern. And
11 as it turns out, even the LG Philips' logo, that
12 is a dummy pattern.

13 Q. Can we look at the next page of
14 this document, please. Is it possible to
15 identify dummy patterns on this page or is there
16 another page to look at?

17 A. This is the one that now shows
18 that there are also dummy patterns where in the
19 previous ones we saw that it's LG Philips' logo,
20 on this one we see that there is a rather
21 substantial dummy pattern in that area as well
22 as the dummy patterns at the end.

23 Q. For the record this is page
24 629-106. Any other pages you would like to look

1 at, Doctor?

2 A. I think this one is simply an
3 enlargement showing that there are dummy
4 patterns at the end that's below that point of
5 the apex of that triangle. Those are not
6 connected to anything in this particular
7 drawing, and so they are dummy patterns for
8 purposes of etching.

9 MS. HOLLOWAY: Your Honor, we
10 offer AUO 1610 into evidence.

11 THE COURT: It's admitted.

12 BY MS. HOLLOWAY:

13 Q. Are the dummy patterns in this
14 product different in any way from accused dummy
15 patterns?

16 A. Yes, they are.

17 Q. Why is that?

18 A. In fact the entire wiring scheme
19 is different.

20 Q. Could we have the picture of the
21 wiring.

22 A. First of all, we have to realize
23 that this example that was shown to us very
24 recently is of a much smaller display. This

1 display is only ten inches in size whereas all
2 the accused products are substantially larger
3 than that, so we're dealing with a much smaller
4 display, a much smaller area that needs to be
5 etched.

6 And furthermore, when we look up
7 closer at the wiring configuration, we see that
8 the wiring patterns are much wider and the
9 spacing is entirely different.

10 So for Mr. -- for Dr. Rubloff to
11 draw the conclusion that somehow this is a
12 generic example that dummy patterns are not
13 required I think is very misleading.

14 Q. Do the dummy patterns in this
15 particular product meet the requirement of at
16 least about thirty percent coverage?

17 A. They do not.

18 Q. Okay. Let's turn to Dr. Rubloff's
19 opinions on the supposed LGD on sale bar
20 products. Could we have AUO 1589 and AUO 1590
21 up on the screen, if they both fit. If not
22 we'll take them one at a time.

23 Now, Dr. Rubloff gave a couple of
24 opinions on some GDS print documents. Do you

1 recall that?

2 A. I do.

3 Q. Do you recognize these two
4 documents here, AUO 1589 and 1590?

5 A. Yes.

6 Q. What are they, roughly speaking?

7 A. These are general examples of GDS
8 output files from those particular documents.

9 Q. Were these printouts in
10 Dr. Rubloff's report?

11 A. I believe they were not.

12 Q. Have you seen a document from LGD
13 correlating their GDS files with modules
14 numbers?

15 A. Yes. And we used it.

16 Q. Could we have AUO 0579 up on the
17 screen. Is this the document?

18 A. This is a page from that document.

19 Q. For the record, I believe we're at
20 page 256.

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Q. Did those GDS files meet the limitation of the dummy patterns comprised of at least about thirty percent of the area where the dummy patterns are located?

A. They did not.

Q. Did you do anything to determine when those GDS files were last modified?

A. Yes, I did.

Q. Could we have Exhibit AUO 1039 and 1040 up on the screen side-by-side. What are these documents, please?

A. I made a request that we do an analysis and try to trace down when was the last

1 modification or last update made to these files.
2 So we had a software engineer who is competent
3 in this area do a search and he showed --
4 produced this result that showed that the files
5 were last modified on 1/25 of '06.

6 MS. HOLLOWAY: Your Honor, we
7 offer AUO 1039 and 1040 into evidence.

8 THE COURT: It's admitted.

9 BY MS. HOLLOWAY:

10 Q. Have you analyzed the -- I would
11 like to return to printouts that Dr. Rubloff
12 showed us, AUO 1589 and 90.

13 A. Yes.

14 Q. Have you analyzed the GDS files
15 that these opinions came from?

16 A. Yes, I did.

17 Q. Was that after we heard from
18 Dr. Rubloff?

19 A. Yes, very recently.

20 Q. Do these patterns that Dr. Rubloff
21 identified in AUO 1589 and 1590 meet the
22 requirement of the dummy patterns comprise at
23 least about thirty percent of the area?

24 A. They do not.

1 Q. Could we have Exhibit 1594,
2 please. What is this exhibit, Doctor?

3 A. This is another GDS file just
4 showing that overall configuration. And for
5 purposes of analysis, we selected only that area
6 where the -- I think we can call the dot pattern
7 exist.

8 Q. And this is the dot pattern for
9 1589 and 1590, those two AUO exhibits we were
10 just looking at?

11 A. That's my understanding yes.

12 Q. And can you explain what you did
13 here to analyze the product?

14 A. If we can back up just one -- yes.
15 Okay. At that slide this is an enlargement of
16 what we actually had in that dot pattern area.
17 The diagonal lines we see are the wiring, that's
18 actually what's going to the TFT array and then
19 we see these small little hexagons in this
20 patent.

21 Q. For the record this is slide
22 629-102 that you have just been talking about;
23 correct?

24 A. Yes.

1 Q. Moving to the next slide, 629-103.

2 A. In this slide it's just an
3 enlargement. It shows exactly what these
4 patterns look like. And then in the final slide
5 this shows that we used -- that the rulers that
6 are actually provided within the CAD document
7 within the GDS system to measure the dimensions
8 and to calculate the area. And if we do a very
9 simple geometric calculation using the square as
10 outlined in the upper right-hand figure, we see
11 that the dummy patterns within this dot pattern
12 area cover about twenty-two percent of that
13 area.

14 Q. Did you include product with GDS
15 that includes patterns similar to those
16 Dr. Rubloff identified as dummy is in AUO 1589
17 and AUO 1590 of infringing?

18 A. We did not include those products
19 for infringement.

20 Q. Okay. Can I have Claim 1 of the
21 '629 patent up on the screen, please. I would
22 like to focus on the term area.

23 Now, Dr. Rubloff says this term is
24 insolubly ambiguous. Do you agree?

1 A. I do not.

2 Q. Why not?

3 A. I believe that to anyone with
4 reasonable knowledge in the art, knowing that we
5 are creating dummy patterns, knowing what the
6 purpose of those dummy patterns is, that the
7 area that needs to be identified is clearly
8 obvious.

9 Q. Now, Dr. Rubloff talked about some
10 prior art references. Do any of those
11 references disclose the problem relating to
12 two-layer structure etchant that is described in
13 the '629 patent?

14 A. No, they're dealing with entirely
15 different situations.

16 Q. Do any of those references
17 described using dummy patterns with multi-layer
18 wiring so as to insure that the upper layering
19 of wiring material does not become insoluble in
20 an acid or alkaline etchant during etching?

21 A. Not at all.

22 Q. What about the structures that
23 Dr. Rubloff identified as dummy patterns in the
24 prior art, are they dummy patterns within the

1 meaning of the '629 patent?

2 A. They are not.

3 Q. Assume that one uses these prior
4 art patterns, what Dr. Rubloff calls dummy
5 patterns, with two-layer wiring, will
6 the so-called prior art dummy patterns
7 necessarily prevent the upper layer material
8 from becoming insoluble in an acid or alkaline
9 etchant?

10 A. It will not.

11 Q. Why not?

12 A. Because the particular result is
13 structure dependent. Those patents are dealing
14 with other kinds of structures and other
15 applications. And they are not describing a
16 method or a structure that would achieve the
17 desired result.

18 Q. Okay. Let's turn to the Watanabe
19 '275 patent prior art. This is AUO -- I'm
20 looking at AUO 1587?

21 This is one of Dr. Rubloff's
22 slides from last week. You remember that?

23 A. Yes, I do.

24 Q. Now, Dr. Rubloff testified that

1 the pattern marked in yellow here on the
2 right-hand side of the middle is a light
3 shielding structure.

4 Do you agree with his description
5 of this pattern in Watanabe?

6 A. Yes.

7 Q. Now, Dr. Rubloff also testified
8 that the '275 patent does not disclose dual
9 layer wiring. Do you agree with that?

10 A. I do.

11 Q. And Dr. Rubloff also testified
12 that the '275 patent nowhere teaches that the
13 upper wire upper layer of the -- a two layer
14 wiring structure does not become insoluble in an
15 acid or alkaline etchant.

16 Do you agree with that?

17 A. I agree with that, also.

18 Q. Let's have LGD Slide 269-024.

19 Now, do you see here on the
20 right-hand side at the bottom Dr. Rubloff says
21 that "dual layer with molybdenum on top will
22 inherently not become insoluble in acid or
23 alkaline".

24 Do you see that?

1 A. I see that.

2 Q. Is that a correct statement?

3 A. It's clearly not a correct
4 statement, because that is what one of the
5 configurations of the '629 patent specifically
6 addresses.

7 Q. And why does Watanabe not disclose
8 the fact that this will inherently happen?

9 A. It's just not disclosed there.

10 Q. Let me perhaps back up a bit.
11 Let's assume we take the so-called dummy
12 patterns, the light shields. I believe they are
13 in Watanabe?

14 A. Yes.

15 Q. And two layer wiring structures.
16 We put a Watanabe dummy somewhere in the
17 periphery. We perform etching.

18 Can we conclude that there will
19 not -- that there will necessarily not have a
20 passivity problem?

21 A. No. We cannot conclude that
22 because passivity problem is structure dependent
23 and also etching condition dependent and
24 dependent on temperature and many other

1 parameters.

2 Q. Okay. Can I have AUO 1586 up on
3 the screen?

4 Now, Dr. Rubloff testified that
5 given the numerous factors that affect etching,
6 if you use the metal patterns disclosed in the
7 '695 reference, you may or may not encounter the
8 passivity problem. Do you agree?

9 A. I agree, and that was what I was
10 just trying to explain to you in the previous
11 question.

12 Q. My mistake. Okay.

13 And why is that?

14 A. Again, because the passivity is a
15 peculiar condition that's encountered under very
16 specific conditions of structure, etchant
17 concentration, temperature, and a variety of
18 other choices such as what the etching material
19 is to begin with.

20 Q. Can I get Exhibit LGD 246 up on
21 the screen?

22 I'd like to focus on Column 16,
23 Lines 19 through 28.

24 Now, in discussing the dual layer

1 wiring structure supposedly of this reference,
2 Dr. Rubloff cited Column 16, Lines 19 through 28
3 which are on its screen. Does this passage
4 disclose dual layer wiring as required by Claim
5 7 and 16 of the '629 patent?

6 A. It does not.

7 Q. What does it disclose?

8 A. What it discloses is a four layer
9 structure with titanium on the bottom then
10 titanium nitride then aluminum and then titanium
11 nitride.

12 For us to have a structure such as
13 described in the '629 patent, we would need
14 aluminum and then a metallization layer on top.

15 Titanium nitride is not a metal
16 and it's not an alloy. It's a compound. And
17 not only that, it's a ceramic.

18 So we do not have the required
19 structure that would satisfy what the claim
20 language requires.

21 Q. Does this passage mention
22 molybdenum?

23 A. It does not.

24 MS. HOLLOWAY: Okay. I'd like to

1 move onto the '157 patent.

2 Excuse me one moment, Your Honor.

3 BY MS. HOLLOWAY:

4 Q. Okay. Dr. Silzars, were you in
5 the courtroom when the demonstration right over
6 there, the AUO 1598 that's been marked, when
7 that demonstration was shown to
8 Mr. Smith-Gillespie with the non-public display
9 in the landscape and portrait mode?

10 A. Yes, I was.

11 Q. Now, do you recall also AUO
12 represented that the image was rotated by a
13 computer?

14 A. Yes.

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21 Q. Okay. Is that model a public
22 display model?

23 A. It is not stated as such in my
24 understanding.

1 Q. Would the display module of a
2 public display also require some external input
3 such as from a computer to rotate an image?

4 A. That would always be the case,
5 yes.

6 Q. Why is that?

7 A. That is for the larger displays.
8 I don't know of any that are currently produced
9 as products that operate like the iPhone. All
10 the displays that are of the larger size that
11 input information determines the format.

12 Q. Do you have to feed an image that
13 is formatted the right way?

14 A. It's the same way as you rotate an
15 image on your computer screen, if you just ask
16 it to rotate, it will rotate the image. But the
17 display really does not know what image it's
18 getting. So you tell it what you like it to
19 display.

20 And that is the external input
21 rather than internal modification.

22 Q. Were you in the courtroom when
23 Mr. Smith-Gillespie was testifying?

24 A. Yes, I was.

1 Q. And he mentioned a Shimizu patent;
2 do you recall that?

3 A. I recall that, yes.

4 Q. And he relied on Shimizu as prior
5 art based on the publication date; correct?

6 A. I believe so, yes.

7 Q. Let's take a look at that
8 reference. We have Exhibit LGD 343 cover page.

9 I'd like to focus on the PCT
10 publication date. What is that date, please?

11 A. The date that I see on the patent
12 is March 11, 2004.

13 Q. Thank you. Now, could we pull up
14 AUO 0833.

15 And what is this document, sir,
16 Dr. Silzars?

17 A. My understanding is that this is
18 an AUO Optronics invention disclosure form.

19 Q. Okay. Let's look at first one and
20 two of the invention disclosure.

21 What do these figures show?

22 A. As I look at the '157 patent that
23 I have in front of me, and I look at these
24 figures, I see that, for example, Figure 2 is

1 identical to Figure 1A in the '157 patent.

2 Q. Now, let's look at the last page
3 of the document AUO 0833. And what do these
4 figures show?

5 A. These figures show a structure
6 that is for all -- as much as I can tell, it's
7 identical to the structure that is shown in
8 figures.

9 And 4B -- I think also 4C and 4D
10 of the '157 patent. The '157 patent has some
11 additional annotations.

12 But the figures themselves are --
13 the graphic part of it looks to me to be
14 identical and also is consistent with the
15 description that's in the patent.

16 Q. Okay. Let's compare these figures
17 then with Claim 1 of the '157, which is shown
18 right here next to you on the easel.

19 Are all the elements of the '157
20 patent shown in the figures in AUO 0 833 the
21 final page?

22 A. I believe they are. I should also
23 note that these were the figures that I used
24 during my direct testimony as the example of the

1 '157 patent and the configuration that was being
2 used for infringement.

3 So, yes, I believe they are
4 consistent with Claim 1 to show all the elements
5 of Claim 1.

6 Q. Now, look at the first page of
7 Exhibit AUO 0833. If you take a look at the
8 date by the signatures near the bottom of the
9 page.

10 Okay. And does it appear to you
11 those dates are given in the international
12 format with the year and then month and then
13 day?

14 A. Yes.

15 Q. And do those dates predate the
16 publication date of the Shimizu March 2004?

17 A. They do. The publication date
18 shown here are 2004 and it would be February
19 6th.

20 Q. Now, Mr. Smith-Gillespie also
21 mentioned the Fukayama patent; correct?

22 A. Yes.

23 Q. Could we have LGD 332 up on the
24 screen? Was Fukayama considered by the examiner

1 during the prosecution of the '157 patent?

2 A. That's my understanding, yes.

3 Q. Is there any mention of Fukayama
4 of rotating a display?

5 A. I did not find any such mention.

6 Q. Is there any reason at all to
7 combine Fukayama with the rotatable display?

8 A. I don't believe so. No.

9 Q. Was the problem of distortion
10 caused by rotation, was that known in the art at
11 the time the '157 was filed?

12 A. I think the problem was perhaps
13 known. It's difficult to say if someone may
14 have noted it, but certainly the '157 patent
15 addresses the problem of rotation and the
16 distortion that's caused by rotating display.

17 Q. Let's look at Figure 1 of Fukayama
18 alongside Column 4, Lines 30 to 42.

19 And I'd like to focus on the first
20 sentence.

21 What, in general, does Fukayama
22 disclose relevant to the '157 patent?

23 A. I'm not sure I understand.

24 Q. Do we have Column 4 here?

1 MS. HOLLOWAY: Bill, that doesn't
2 look right.

3 Okay. That's more like it.

4 So focusing on the first sentence
5 here. Which column is this, Bill?

6 Four?

7 BY MS. HOLLOWAY:

8 Q. Column 4, lines 30 to 42.
9 Focusing on the first sentence, what, in
10 general, does Fukayama disclose that is relevant
11 to the '157 patent?

12 A. What he is talking about here, I
13 think is about the third line on down which can
14 provide reliable positioning and secure holding
15 of the optical sheet relative to the lower
16 frame. And I think he was specifically focusing
17 on the words secure holding.

18 So Fukayama's talking about
19 securely holding the optical sheet rather than
20 the methodology that's described or the
21 scrubbing structure that's described in '157.

22 Q. Now, do you recall
23 Mr. Smith-Gillespie talking about Fukayama and
24 describing the films in Fukayama as being

1 loosely held?

2 A. I do recall that.

3 Q. In your opinion, does loosely held
4 mean does not contact?

5 A. That is not the way that I would
6 use language as we would normally use it,
7 because we can loosely hold an object and still
8 be in contact with it. If I'm loosely holding a
9 cup, or a baseball or something that does not
10 mean that I'm not contacting. In fact, it would
11 mean the contrary.

12 Q. Do you recall Mr. Smith Gillespie
13 testifying that the element second supporting
14 portion does not contact is disclosed in Figure
15 13 of Fukayama?

16 A. I believe I remember that
17 testimony. Yes.

18 Q. Let's look at Fukayama Column 11,
19 Lines 24 to 43.

20 If I said 11, actually I meant to
21 say Column 18, Lines 34 to 43. Focusing
22 specifically on the last sentence of this
23 paragraph the one that says although this
24 embodiment is similar to the first embodiment

1 and so on and so forth.

2 Look at that sentence. Do you see
3 this mention of Figure 1?

4 A. Yes.

5 Q. Okay. Looking at Figure 1, does
6 Figure 1 show the side of the film that is
7 firmly fixed?

8 A. Yes, it does.

9 Q. Which side is that?

10 A. That -- it's the side towards the
11 left in the drawing. It's using that pin so
12 that that's firmly fixed and it's firmly fixed
13 using adhesive tape.

14 Q. Is that ATP?

15 A. Yes.

16 Q. Okay. Let's return to that last
17 sentence in Fukayama at Column 18, Lines 24 to
18 43.

19 How does -- this sentence say the
20 other sides of the optical film that are not
21 depicted in Figure 3. How are they held?

22 A. The other side can be loosely
23 engaged.

24 Q. Now, continuing to look at that

1 last sentence, does this refer to BT as
2 replacing the column in the other loosely held
3 sides?

4 A. That's how I would interpret that.

5 Q. Do you recall Mr. Smith-Gillespie
6 testifying earlier about the Sakamoto reference?

7 A. Yes, I do.

8 Q. LGD 299?

9 A. Yes, I do.

10 Q. And what did Mr. Smith-Gillespie
11 rely on Sakamoto for?

12 A. I believe it was for the rotation
13 of the display.

14 Q. Did you discuss Sakamoto in your
15 expert report?

16 A. I discussed it very briefly.

17 Q. Is there an error in your report
18 with respect to Sakamoto?

19 A. Since the '157 patent had already
20 talked about allowing or recognizing the
21 displays can be rotated as prior art, I did not
22 focus very much on Sakamoto, and I neglected to
23 observe that Sakamoto also allowed for the
24 rotation of a liquid crystal display.

1 Q. Okay. You mentioned that the '157
2 patent discloses describes rotatable liquid
3 crystal displays?

4 A. Yes.

5 Q. Could we have Column 1, Line 12 up
6 on the screen?

7 Is this the section you're
8 referring to in the background of the '157
9 patent?

10 A. Yes, it is.

11 Q. So the '157 patent acknowledged
12 that it was known to rotate screens?

13 A. Yes. And since the '157 patent
14 had already acknowledged that as background, I
15 did not do a thorough look at that patent and
16 missed the observation that it also included an
17 LCD.

18 Q. Okay. I'd like to switch gears.

19 Now, we heard a lot on Friday
20 about various supposed HP iPAQ devices. Have
21 you inspected any HP devices in your work on
22 this case?

23 A. Yes, I have.

24 Q. Could we have AUO 1608 and AUO

1 1601 up on the screen?

2 How many -- how many HP devices
3 have you inspected in your work on this case?

4 A. Total of three.

5 Q. Okay. With respect to this email
6 up on the screen, AUO 1608, did you inspect any
7 HP devices pursuant to this invitation by LG?

8 A. This invitation was on April 20th.
9 I believe that pertained to one -- one
10 particular device.

11 I have inspected three devices
12 total. They were all done at separate times.

13 Q. Mm-hmm.

14 A. And I'm not sure I can exactly
15 reconstruct which happened when.

16 Q. Okay.

17 A. But they were three separate
18 occasions for the inspections that were
19 permitted?

20 Q. Okay. And then what about the AUO
21 1601?

22 Does this relate to any inspection
23 that you performed of an HP device?

24 A. Yes, it does.

1 Q. And that was very recently, I take
2 it?

3 A. Yes, just in the last few days.

4 MS. HOLLOWAY: AUO offers 1608 and
5 1601 into evidence.

6 THE COURT: Admitted.

7 BY MS. HOLLOWAY:

8 Q. When about all the other iPAQ
9 devices that Mr. Smith-Gillespie says he
10 inspected, did you ever get a chance to inspect
11 any of those?

12 A. I have no knowledge of any other
13 devices that -- other than the three that have
14 just been mentioned.

15 Q. Did LG counsel depose
16 Hewlett-Packard in this case?

17 A. Yes, they did.

18 Q. Have you reviewed the transcript
19 of that deposition? Could we have AUO 1606,
20 please?

21 A. I have reviewed that transcript.
22 Yes.

23 Q. Did LG counsel ask any questions
24 about the internal mechanical or electrical

1 design of the LCD modules to be used in iPAQ
2 products?

3 A. I did not find any such question.

4 Q. Did LG counsel ask any questions
5 about when any iPAQ product was sold?

6 A. No. I did not see any such
7 questions in there in the deposition transcript.

8 MS. HOLLOWAY: AUO offers AU 1606
9 into evidence.

10 MR. GOODWYN: Objection, Your
11 Honor. I think in the beginning of this case,
12 we had suggested that transcripts be offered
13 into evidence to avoid the burden of having to
14 read them. I believe your ruling was that
15 transcripts would be read in and the parties
16 would be charged time based on the amount of
17 transcript time, and now they're offering up
18 seven hours of deposition transcript in
19 evidence.

20 MS. HOLLOWAY: Your Honor, we're
21 offering that merely for the evidentiary
22 objection and not for the truth of the matter
23 asserted. So we're simply saying they had the
24 opportunity to question about the HP devices and

1 they did not. So we want this for our evidence
2 objections only.

3 MR. GOODWYN: If they would like
4 to read in portions of the transcript, they're
5 certainly entitled to do so.

6 THE COURT: You can read it in for
7 that purpose.

8 MS. HOLLOWAY: Sure, Your Honor.
9 Okay.

10 BY MS. HOLLOWAY:

11 Q. Now, Mr. Smith-Gillespie talked
12 about some FCC documents. Do you remember that?

13 A. I do.

14 Q. And were those documents mentioned
15 in his report?

16 A. They were not.

17 Q. Were you at his deposition?

18 A. I was.

19 Q. Did he mention anything about FCC
20 documents at his deposition?

21 A. Yes, he did. I'm sorry, not at
22 his deposition.

23 Q. Okay. Do you know when we
24 received the FCC documents from LG counsel?

1 MS. HOLLOWAY: And could I have
2 AUO 1600 up on the screen?

3 BY MS. HOLLOWAY:

4 Q. Did you look at the documents
5 described by the Bates numbers on this letter?

6 A. I see the date May 22, 2009, and
7 those appear to be the documents. I personally
8 did not see them until after Mr.
9 Smith-Gillespie's deposition.

10 MS. HOLLOWAY: Your Honor, we
11 offer AUO --

12 THE WITNESS: I mean the
13 testimony, excuse me, in Court here. We offer
14 AUO 1600 into evidence.

15 THE COURT: It's admitted.

16 BY MS. HOLLOWAY:

17 Q. Now, Mr. Smith-Gillespie testified
18 on Friday that the FCC certification of an HP
19 iPAQ device means that the design of the HP
20 device was not changed in any way or at least he
21 suggested that it means that.

22 Do you recall testimony to that
23 effect?

24 A. I do recall that testimony.

1 Q. Is that testimony reliable?

2 A. I don't believe it is.

3 MS. HOLLOWAY: Could we have AUO
4 1602 up on the screen?

5 BY MS. HOLLOWAY:

6 Q. The document you've reviewed,
7 Dr. Silzars, is this?

8 A. Yes.

9 Q. Do FCC regulations permit
10 mechanical changes to certified devices?

11 A. Based on the review of this
12 document, they do. And specifically the
13 highlighted portion here, it says variations in
14 electrical and mechanical construction.

15 Other than these indicated items
16 are permitted provided the variations either do
17 not effect the characteristics required to be
18 reported to the Commissioner, and the
19 characteristics that they're talking about are
20 characteristics that pertain to transmission
21 that would perhaps cause some interference with
22 other signals.

23 Q. Okay. So would changing the
24 internal mechanical to learn how flexible PCs

1 are connected together, would that be permitted
2 under this section of the FCC we're looking at?

3 A. My understanding is that would be
4 one of the changes that would not require
5 further approval.

6 MS. HOLLOWAY: AUO offers AUO 1602
7 into evidence. It's admitted.

8 BY MS. HOLLOWAY:

9 Q. Did LG produce this section of the
10 FCC regulations as far as you know?

11 A. As far as I know, they did not.

12 Q. Could we change gears again? I'd
13 like to bring up Exhibit AUO 1022.

14 Is this a document you've seen
15 before, Doctor?

16 A. In an enlarged version we have in
17 front of us now, yes I recognize it.

18 Q. And what is it?

19 A. This is also an invention
20 disclosure form.

21 MS. HOLLOWAY: We offer AUO 1022
22 into evidence.

23 THE COURT: It's admitted.

24 BY MS. HOLLOWAY:

1 Q. Have you prepared a claim chart
2 analyzing this invention disclosure form and
3 comparing it to the claims?

4 A. Yes, I have.

5 Q. Could we have Exhibit 1604 up on
6 the screen. Was this claim chart, Doctor,
7 attached to your expert report?

8 A. Yes, it was. And the specific
9 comparison is provided in the right-hand column
10 of several more pages in addition to this one.

11 MS. HOLLOWAY: AUO offers AUO 1604
12 into evidence.

13 THE COURT: It's admitted.

14 MS. HOLLOWAY: No further
15 questions for this witness barring any rebuttal,
16 Your Honor.

17 THE COURT: All right. Thank you.

18 MR. GOODWYN: Your Honor, is now
19 an appropriate time to take a break?

20 THE COURT: Well, it is. I have
21 to do a criminal ten-minute matter at four
22 o'clock. If you have any time you want to take
23 up now or do you want to take a break.

24 MR. GOODWYN: Can we just take a

1 break now?

2 THE COURT: Sure.

3 (A brief recess was taken.)

4 THE COURT: All right. Be seated,
5 please.

6 CROSS-EXAMINATION

7 BY MR. GOODWYN:

8 Q. Good afternoon, Dr. Silzars.

9 A. Good afternoon.

10 Q. During your direction examination,
11 you put up a slide that I believe is on the
12 projector now. Was the purpose of this slide to
13 try to demonstrate that the wiring density of LG
14 Display's accused products is lower than another
15 product?

16 A. No. The purpose for showing this
17 was to show that this was a very different
18 configuration, and should not be used in an
19 example that purports to demonstrate that dummy
20 patterns are not needed.

21 What I was illustrating with this
22 particular graphic, which one thing you don't
23 see on this graphic is that this LT model on the
24 left is only a ten-inch display, but the

1 objective of showing this was that the wiring
2 structure is very different in this particular
3 model than the wiring structure that was used in
4 at least one of the products that was accused.

5 Q. You say the wiring structure is
6 different. You mean that the wiring structure
7 is thinner in the accused products?

8 A. Just the spacing, the width in
9 particular, what we can see here on the left
10 that the wiring is much thicker in dimension, in
11 cross-section. If the wiring is inherently
12 thicker in cross-section, there is a greater
13 allowable error that can be permitted in the
14 edges as far as the evenness of the etchant. So
15 if you inherently have a, let's just call it a
16 fatter wire, if it's a fatter wire, than if you
17 have a greater tolerance in the manufacturing
18 process for problems such as undercutting and
19 what, of course one of the problems that has
20 been mentioned in the '629 patent that is being
21 solved by the configurations that are described.

22 So I wanted to illustrate that
23 this is not a simple comparison to show that LGD
24 products don't need dummy patterns. They may

1 not need them in a particular configuration
2 which even in the one that said we do not have
3 them, we he have dummy patterns.

4 Q. Dr. Silzars, did you create this
5 slide?

6 A. I created the slide using the GDS
7 files, yes.

8 Q. You reviewed the GDS file in
9 creating this?

10 A. Yes, absolutely.

11 Q. Did you review the entire GDS
12 file?

13 A. I reviewed the pertinent file for
14 -- given that we had about one day to do this, I
15 reviewed the metallization layer. I did not
16 review every layer in the entire GDS file. And
17 this was done as an exemplary product. There is
18 no conclusion intended here other than to say
19 the wiring is significantly different in
20 dimension in the illustrated product that
21 Dr. Rubloff put up as a way to show that we
22 don't need dummy patterns.

23 Q. Dr. Silzars, given our limited
24 time, I'm going to ask that you listen to my

1 question and just answer my question. Okay?

2 A. I will try to do that, yes.

3 Q. My question is: Did you select
4 the product for reviewing the mask file, did you
5 select that particular mask file?

6 A. There was no particular decision
7 process occurring to select the product. You
8 said let's select one of the products that was
9 accused.

10 Q. Did you review any of the other
11 accused mask files?

12 A. No, I did not.

13 Q. How much time did you spend
14 reviewing this mask file?

15 A. We spent on this particular part
16 of the presentation, perhaps a total of two
17 hours.

18 Q. Do you know what portion of the
19 product that this region comes from that you
20 have got on your display?

21 A. It's one portion of the wiring.
22 The way that we did was simply scrolling up and
23 down on the computer screen and picking a sample
24 structure.

1 Q. Okay. Well, do you know, in fact,
2 that the portion you chose that's shown on your
3 exhibit, if we look over at the demonstrative,
4 was actually the portion very close to the
5 middle of the fan out and very close to the edge
6 of the array?

7 In fact, this is right before the
8 beginning of the pixel arrays; isn't that right?

9 A. I wouldn't be able to correlate
10 those two at all right now.

11 Q. Well, you looked at the mask file
12 yourself in creating those?

13 A. Well, as I told you, when we were
14 creating this, it was for illustrative purposes
15 of the wiring thickness. And we simply scrolled
16 up and down the mask file and picked a spot.
17 There was nothing more intended with this
18 example.

19 Q. Do you know whether or not the
20 wiring is uniform throughout fan out?

21 A. As looking through it, from top to
22 bottom, it appeared to be uniformed. And when
23 I've done other examinations under the
24 microscope, it's certainly uniform. So I have

1 no reason to think that it's otherwise.

2 Q. Well, do you have any
3 understanding as to the length of the wiring
4 affecting the resistance of the wiring?

5 A. Of course.

6 Q. Okay. So that if you want to --
7 if you have a longer wire, you need to actually
8 decrease the resistance overall potentially by
9 making it fatter; isn't that right?

10 A. It's certainly dependent on a
11 particular situation. If it's very well
12 current, higher resistance may be acceptable.
13 If there's a current that needs to be carried
14 that would -- that creates a significant voltage
15 drop, then that has to be taken into account.
16 Yes.

17 Q. Okay. Well, let me show you
18 another wiring printout from another portion of
19 the display.

20 Now, where you had a dimension of
21 around 9.8, if we go to another part of the
22 display, it actually -- the wires actually get
23 much closer in size to the space between the
24 wires, don't they?

1 A. I don't know what you're showing
2 me or what part of the display you're showing
3 me. I -- I can take your representation that
4 it's part of the same display.

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9 That's the same one you chose,
10 isn't it?

11 A. I think you can appreciate that I
12 cannot memorize that long string of numbers. If
13 we put a side-by-side comparison, I have no
14 reason to -- yes. I have no doubt that it can
15 be the same file.

16 Q. It's the same one, isn't it? And
17 it shows, in fact, --

18 A. Yes.

19 Q. -- that the wiring is different
20 than the wiring for the example or the -- what
21 you were trying to convey to the Court that the
22 wiring is further apart in the accused product,
23 but it's not, is it?

24 A. No. What I'm trying to convey to

1 the Court is simply that there are differences
2 in the wiring dimensions, and those differences
3 will affect whether one needs a dummy pattern or
4 not.

5 Q. You chose a spot furthest away
6 from the edge of the fan out edge, and last week
7 you testified that the most important area were
8 these last wires, out of the end of the fan out.

9 Yet, you chose the part as far
10 away or just about as far away as you can get
11 from that point for your example, didn't you?

12 A. As I said before, we're comparing
13 a 10-inch display to a display that's
14 considerably larger. The 10-inch display has a
15 different layout, has a different wiring
16 pattern.

17 And my only objective of putting
18 the slide up there was to say there are
19 differences that do not allow a simple
20 conclusion to be made, that LGD does not meet
21 the dummy patterns.

22 Q. Well, let's actually look at a
23 product that you said it was most important, the
24 last wires or the wires furthest out at the fan

1 out. Let's look at the two products that you
2 put in your summary chart.
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MS. HOLLOWAY: Your Honor, if
counsel could put a question instead of standing
here testifying, we object to this.

THE COURT: The objection is
noted.

Q. It's not as different as you tried
to convey earlier, is it, Dr. Silzars?

A. My point then and my point now is
-- first of all, not with any specific dimension
in mind. My point then and my point now was
that we cannot make a comparison of simply
putting up a GDS file and coming to the
conclusion that I believe Dr. Rubloff was
implying that LGD does not need to use dummy
patterns.

My point in illustrating this is
that dummy patterns depend on many different
features and they depend on the wiring with --
they depend on the spacing, they depend on the
size of the display, how far apart the driver
chips are, and they of course depend on the kind
of metals that are used. So I did not make any

1 conclusion about specific spacings or specific
2 dimensions other than to say they're different.
3 And indeed they are different. And as we found
4 in the examples shown by Dr. Rubloff, indeed
5 they contain dummy patterns.

6 Q. And one of the things that you
7 accused of being a dummy pattern was the LG
8 logo; isn't that right?

9 A. That is a legitimate dummy
10 pattern, yes. It takes up space and it's
11 covered with metal.

12 Q. Would you agree, Dr. Silzars, that
13 this slide you presented earlier during your
14 rebuttal testimony, that it's actually not an
15 accurate representation of the density of the
16 wires for other product in the area of the edge
17 of the wiring that you accused was the most
18 important area?

19 A. First of all, I will say one more
20 time, my only purpose for showing this --

21 Q. No, Dr. Silzars. My question is,
22 would you agree that the slide you used during
23 your direct is not an accurate representation of
24 the density of the wires at the outer most wire

1 of the fan out as shown in both of these
2 products?

3 A. This is a representation of the
4 area that is shown in those figures.

5 Q. And it's not the outer most wire,
6 is it?

7 A. I would have to see the entire
8 structure to see it.

9 Q. You created these, didn't you?

10 A. As I said, we were simply scanning
11 through the region and picking a representative
12 example.

13 Q. Do you know whether or not this is
14 near the pixel array, the area you chose?

15 A. I would say -- no, at the moment I
16 really don't know. I would have to look --

17 Q. You have no idea what these
18 structures are, and you don't know the area you
19 chose; right?

20 A. That was not the objective. The
21 way we could tell what area we chose was to look
22 at the entire layout and identify that area. I
23 did not feel the need to do that for my
24 illustrative example here.

1 Q. But your illustrative example was
2 not something that was representative of the
3 wires at the edge of the display?

4 A. I was not making an accusation, I
5 was pointing out a difference.

6 Q. But the difference wasn't as great
7 as you implied it, was it?

8 A. The difference is as great because
9 the entire display is much smaller. We were
10 talking about a ten-inch display versus large
11 displays that are used for television. That is
12 a significant difference.

13 Q. The 15.4 is an accused product,
14 isn't it, the one here on the right?

15 A. Yes.

16 Q. That's not a large TV, is it?

17 A. That's correct.

18 Q. Now, on your direct you discussed
19 some testimony about Watanabe; is that right?

20 A. That's correct.

21 Q. Would you agree that Watanabe
22 discloses dummy patterns greater than thirty
23 percent of an area in accordance with your claim
24 constructions?

1 A. In accordance with a part of the
2 claim construction.

3 Q. In accordance with your claim
4 construction, also?

5 A. Watanabe. Well, the accused
6 claims require two layers.

7 Q. I'm not asking that. I asked you,
8 does it disclose the dummy pattern?

9 A. You said in accordance with claim
10 construction.

11 Q. In accordance with your
12 understanding of dummy pattern, does your
13 construction of dummy pattern require two
14 layers?

15 A. For the accused claims, it does.
16 In general a dummy pattern --

17 Q. I'm asking you does the dummy
18 pattern in Claim 1 require two layers?

19 A. In general, a dummy pattern would
20 not require two layers.

21 Q. Does Watanabe show a dummy pattern
22 comprising thirty percent of an area in
23 accordance with Claim 1, using your claim
24 constructions?

1 A. Well, I think to clarify that,
2 perhaps you could put what you say is my claim
3 construction because I really have not made a
4 personal claim construction.

5 Q. What is your claim construction?

6 A. What we have that's been presented
7 here in the courtroom is an AUO proposed claim
8 construction, and an LGD proposed claim
9 construction, not one that's assigned to
10 Dr. Silzars.

11 Q. Do you agree with AUO's claim
12 construction?

13 A. I think if you want me to comment
14 on it, put it up on the board.

15 Q. Do you recall what that claim
16 construction is?

17 A. Not from memory.

18 Q. You don't know whether you agree
19 with AUO's construction or LG Display's
20 construction?

21 A. If we could put it up there, I
22 could verify that for you.

23 Q. During your analysis, do you know
24 whether you agreed with AUO's claim construction

1 for dummy patterns?

2 A. I believe that during my analysis
3 I did agree with that. And I would be happy to
4 verify that for you if you put it up on the
5 board.

6 Q. Now, this is another slide that
7 you spoke about. It was marked as AUO 629-107.
8 And I believe you testified that this showed
9 dummy patterns. I believe you were referring to
10 these regions at the top and bottom on the
11 left-hand side; is that right?

12 A. That's correct.

13 Q. These are actually the pads
14 directly above it, aren't they, the contact
15 pads?

16 A. Yes.

17 Q. Down here the contact pads?

18 A. Given what we have up on the
19 screen right now, it's hard to see where the
20 dividing point is, but if we enlarge it, it's
21 relatively easy to see. I don't know if we can
22 see it on this layout with enough resolution,
23 but we can certainly identify it if we enlarge
24 it a little further.

1 Q. These are contact pads here;
2 right?

3 A. They are -- yes, they are the
4 contacts that go to the wiring.

5 Q. In fact, what you said were dummy
6 patterns are actually the same size and shape
7 and distance from the edge of the display as the
8 pads themselves; isn't that right?

9 A. What do you mean by distance from
10 the edge of the display? I'm not quite sure how
11 to interpret that part of your --

12 Q. They're in the same location as
13 the pads, the pads and what you called the dummy
14 patterns were all from the same sentence from
15 the edge of the display?

16 A. They're basically a continuation
17 of the contact pads.

18 Q. In fact, what you have identified
19 as dummy patterns are not between the pads on
20 the edge of the array, are they?

21 A. I simply identified them as dummy
22 patterns.

23 Q. My question, Dr. Silzars, is are
24 what you identified as dummy patterns between

1 the pads and the edge of the array?

2 A. They are between the edge of the
3 array and the wiring. And the TFT array and the
4 edge of the array, yes.

5 Q. Again, my question, Dr. Silzars,
6 are what you identified as dummy patterns
7 between the contact pads and the edge of the
8 array?

9 Yes or no?

10 A. They are between where the contact
11 pads begin and the edge of the array.

12 Q. They're not between the pads and
13 the array. You're defining the start of the
14 pads as part of the between, aren't you?

15 A. I think this is consistent with
16 the '629 patent. When we drew the patterns
17 before, we can see in the '629 patent that that
18 is an area that is considered to be between in
19 the claim. It does not --

20 Q. Dr. Silzars, the claim says
21 between the pads in the array, doesn't it?

22 A. Yes, it does.

23 Q. Okay. Dr. Silzars, you would
24 agree that on Page 52, Paragraph 187 during your

1 direct rebuttal testimony, you pointed to two
2 paragraphs describing your test set up; isn't
3 that right?

4 A. I don't know what you're -- what
5 you mean by --

6 Q. Can I see Page 52 of Dr. Silzars'
7 infringement expert report, starting at
8 Paragraph 187?

9 Okay. These are the two
10 paragraphs that you identified during direct of
11 your rebuttal examination saying that this
12 explained your testing methodology; isn't that
13 right?

14 A. Oh, okay.

15 Q. It's your expert report?

16 A. You're not talking about dummy
17 patterns anymore?

18 Q. Now, I'm talking about the '160
19 patent.

20 A. Thank you. Yes.

21 Q. Okay. These are the only two
22 paragraphs in your entire report that talk about
23 your testing methodology, aren't they, test set
24 up?

1 A. No, that's not correct.

2 Q. Okay. Well, I actually had to
3 spend, what, about an hour's worth of time at
4 your deposition getting the details of your
5 testing methodology, didn't I?

6 A. That was by your choice.

7 Q. Okay. But the only way to get the
8 insight as to what you actually did, it wasn't
9 included in your report, I had to ask you about
10 it, didn't I?

11 A. No. I believe from even my direct
12 testimony earlier today, that there are several
13 other paragraphs that specifically talk about
14 testing methodology.

15 Q. Okay. Well, in Paragraph 187 when
16 you said you used a photosensor, does that
17 indicate whether or not you used a
18 phototopically calibrated photosensor?

19 A. I already described in my direct
20 testimony that I used a photodiode that is a
21 linear sensor that responds directly to light
22 input and produces a linear output based on that
23 light input. So, no, it is not correct.

24 And the only way to get such a

1 sensor is to have electronics -- a photodiode.

2 Q. My question was: Dr. Silzars, did
3 you identify in your expert report whether you
4 used a phototopically calibrated photosensor?

5 A. I identified that I did not.

6 Q. In your expert report?

7 A. Yes.

8 Q. It just says a photosensor. It
9 doesn't say whether or not it's calibrated.

10 A. As I described earlier, a
11 photosensor has no inherent calibrations that
12 that can be made to it.

13 Q. Okay. Dr. Silzars, would you
14 agree that the '160 patent is directed to the
15 amount of light perceived by the human eye?

16 A. It is directed to an integrated
17 quantity of light as measured from the display.

18 Q. Perceived by the human eye?

19 A. The intent is that when it is
20 equal, that the perception of the human eye will
21 be that it is substantially equal.

22 Q. My question, Dr. Silzars, is: Is
23 the '160 patent directed to the amount of light
24 perceived by the human eye?

1 A. Well, since this is dealing with
2 the display, of course, that is what we are
3 eventually trying to accomplish, that the human
4 eye perceives the light quantity of light that
5 is equal to the desired quantity of light.

6 Q. Would you agree that the human eye
7 perceives brightness?

8 A. Yes.

9 Q. Okay. Would you agree that the
10 human eye has a nonlinear photopic response?

11 A. The human eye has a variety of
12 special features. We don't respond uniformly to
13 different colors. We don't respond uniformly to
14 widely varying levels of light.

15 So you are discussing photopic
16 versus scotopic; is that right?

17 A. Can I finish my answer?

18 Q. I'd prefer, Dr. Silzars, if you
19 just answered my question. And my question was
20 simply: Would you agree that the human eye has
21 a nonlinear photopic response?

22 A. When we are comparing two
23 quantities that are intended to be equal, equal
24 is not dependent on linearity. Equal is equal

1 under -- whether it's linear or nonlinear.

2 And the objective of this patent
3 is to create an equality, a near equality within
4 that range. The eye is quite linear.

5 Q. Dr. Silzars, I did not ask you
6 anything about the patent. I asked you about
7 your understanding about how the human eye
8 operates.

9 My question is: Would you agree
10 that the human eye has a nonlinear photopic
11 response to color?

12 A. Well, over a wide range of
13 brightness levels speaking -- thinking of
14 looking directly into the sun and looking at an
15 object under starlight, the eye is nonlinear
16 because it adjusts for the brightness.

17 But that's over an extremely wide
18 range. That is not the range that we're dealing
19 with in a display.

20 Q. For your optical testing would you
21 agree that LG Display's products use a photo or,
22 excuse me, for your optical testing of LGD
23 products, you used a photodiode from Tektronix
24 that was calibrated for linear response?

1 I believe that's what you
2 explained earlier; isn't that right?

3 A. It has a linear response.

4 Q. You would agree that the
5 photodiodes you used measures energy and not
6 brightness?

7 A. It measures amount of light and
8 presents a result as brightness. It measures a
9 number of photons coming in and it converts
10 those to electrons. When the area is the same,
11 when the measurement is done under the same
12 conditions, you're measuring the brightness.

13 Q. But you're measuring energy,
14 because you're measuring the photons that are
15 being received. I believe you testified earlier
16 that as these photons or the electron hole
17 pairs.

18 So it's measuring energy; isn't
19 that correct?

20 A. Under -- if you -- to talk about
21 energy, we now have to include wave length. We
22 have to include the area that's being measured.

23 We have to include things that
24 aren't -- do not vary in this experiment. When

1 we have a photometer, if I take a photometer
2 that measures in either candelas per meter
3 squared or foot-lamberts, which is exactly what
4 this photodiode is doing, except we're not using
5 those units. When I point a photometer at the
6 stream, I will measure a brightness. It will be
7 given in candelas per meters squared or
8 foot-lamberts. It's a number.

9 That -- that is a brightness
10 level. It is not an energy level. Energy is
11 something else that includes the area, includes
12 wavelength, includes other things that are not
13 pertinent to what we're measuring here.

14 We are measuring brightness.
15 Brightness is measuring candelas per meter
16 squared or foot-lamberts.

17 Q. It's actually converting the
18 energy to a voltage level for the oscilloscope,
19 isn't it?

20 A. No. It's converting a brightness
21 level to a voltage.

22 Q. And how is -- it's measuring the
23 brightness by the receipt of photons; isn't that
24 right?

1 A. That's how a photometer works.

2 Q. And the photon -- the amount of
3 energy is based on the number of photons
4 received?

5 A. The amount of brightness.

6 Q. Did you have your photodiodes
7 calibrated by a recognized agency before doing
8 your testing of the LGD products?

9 A. What would you consider a
10 "recognized agency", because I don't know of
11 such.

12 Q. Did you have your photodiodes
13 calibrated at all prior to testing of LG
14 Display's products?

15 A. Yes, I did.

16 Q. How did you personally calibrate
17 them?

18 A. Yes. I have a number of
19 photometers that are calibrated that produce
20 actually a like measurement in candelas per
21 meters squared or foot-lamberts. Such
22 measurement devices are available and also
23 photodiodes that are produced by other
24 commercial entities such as Thor labs.

1 Q. All you did was compare one
2 photodiode to another patent portfolio?

3 A. The photodiode is inherently
4 linear. I compared it to a calibrated
5 photometer, not to another photodiode.

6 Q. Do you determine the experimental
7 error in your measurements for calculation of
8 time integration quantity of light?

9 A. The reason that I produced the raw
10 data, I sent the exact waveforms that I was
11 capturing so that any expert could determine the
12 experimental error.

13 Q. Dr. Silzars, I'm asking you did
14 you determine the experimental error of your
15 measurements in calculations for the time
16 integration quantity of light?

17 A. The experimental error, the raw
18 data shows the waveforms. It shows the actual
19 result. The experimental error can be
20 determined by anyone reading that report.

21 Q. Dr. Silzars, I'm going to ask you
22 again, would you please answer my question. Did
23 you determine the experimental error of your
24 measurements and calculations for the time

1 integration quantity of light?

2 A. The experimental error depends on
3 which levels we are looking at. We can look at
4 the -- any particular waveform and I can tell
5 you what the experimental error is on that
6 waveform. If you look at my graphs, you will
7 see that there is a range shown on all of the
8 lines. I have two lines with a center line, on
9 both the baseline and the high line and also on
10 the waveform. That is in effect an estimate of
11 the experimental error.

12 Q. Dr. Silzars, I'm going to ask you
13 again, I'm not asking you whether you can
14 calculate the experimental error, I'm asking you
15 if you did calculate the experimental error?

16 A. I just told you that I did because
17 it's on those graphs. If we just look at one of
18 the pictures I will point out to you where the
19 experimental error was shown.

20 Q. What was the experimental error of
21 your measurements?

22 A. We have to look at the particular
23 graph. It's different for every measurements
24 because it depends on the light level.

1 Q. Can I see Mr. Eccles' direct LGD
2 160-034.

3 What I have got up here,
4 Dr. Silzars, are the proposed claim
5 constructions for ideal quantity of light in a
6 stationary state and time integration quantity
7 of a brightness change. Do you see that?

8 A. Yes.

9 Q. Now, AUO has proposed that the
10 ideal quantity of light in a stationary state is
11 the quantity of light emitted by a pixel during
12 one time increment when the pixel is in a
13 nonchanging state; isn't that right?

14 A. Yes.

15 Q. And AUO proposed for the time
16 integration of a brightness change, a quantify
17 of light equal to the actual brightness level
18 output through a liquid crystal summed over a
19 time period including the rise and fall response
20 time of the liquid crystal. Is that what it
21 says?

22 A. That's what it says, yes.

23 Q. Can I see 160-010.

24 Now, Dr. Silzars, you would agree

1 that the area that is cross hatched in this
2 exhibit includes a portion of the quantity of
3 light emitted by a pixel; isn't that right?

4 A. Repeat that question.

5 Q. The area that's cross hatched that
6 you omitted from your calculations for ideal
7 quantity of light includes or represents a
8 portion of the total quantity of light that's
9 emitted by a pixel?

10 A. Yes.

11 Q. Now, could I get 01-05, please.

12 Now, you would agree in a figure
13 used in Mr. Eccles' direct, that the cross
14 hatched area shaded in blue on the right-hand
15 figure below the curve represents the quantity
16 of light emitted by a pixel during one time
17 increment when the pixel is in a nonchanging
18 state, wouldn't you?

19 A. In a steady state, is that what
20 you're asking, in a nonchanging state?

21 Q. Correct, in a nonchanging state.

22 A. There is a qualification here that
23 in a nonchanging state we would be looking at
24 the value of 75, and since we don't have a zero,

1 a black level indicated here, which was not
2 pertinent to the measurement, there would be a
3 light level that corresponds to the level of 75
4 if we establish where zero is.

5 Q. You indicated that using the area
6 under the curve would result in a strange
7 result, I believe are the words you used; is
8 that right?

9 A. I don't know if that's exactly the
10 word that I would use, but it's not applicable
11 to this patent.

12 Q. I wrote it down because I was
13 interested in why you would consider it a
14 strange result. Let me show you, give you a
15 hypothetical. And I'm going to draw up real
16 quickly here. If you assume that you start and
17 you're trying to determine the ideal quantity of
18 light, and you go from zero to 255, the ideal
19 quantity of light would be this area, the total
20 area under the curve, this cross hatched; is
21 that right?

22 A. Could you change the magnification
23 on the Elmo.

24 Q. In fact I can. You can't see that

1 very well. Here you go. Is that right?

2 A. Okay. For one frame which I
3 presume we're referencing, yes.

4 Q. For one frame?

5 A. Yes.

6 Q. Now, based on the way you
7 calculated the ideal quantity of light for the
8 measurement of LG Display's products, if you
9 were to start at 255 and go down to zero, based
10 on your measurement technique, the ideal
11 quantity of light for turning a product off
12 would be the same as the ideal quantity of light
13 for turning a pixel full on, isn't that right?
14 Doesn't that seem like a strange result?

15 A. No, because what the patent
16 describes is that time integration quantity of
17 brightness change the simple quantity of light
18 --

19 Q. I'm not talking about --

20 MS. HOLLOWAY: Objection, Your
21 Honor. Let the witness finish his answer. He
22 keeps interrupting the witness.

23 THE COURT: Don't speak to
24 directly to counsel.

1 Q. Dr. Silzars, I'm talking about
2 ideal quantity of light. Based on your
3 measurements, if you were to have done a test
4 from zero to 255, you would have chosen or
5 calculated an ideal quantity of light equal to
6 the rectangle that's shaded. Similarly, if you
7 did a test running from 255 to zero, you would
8 have calculated an exact same amount of ideal
9 quantity of light; isn't that right?

10 A. Because the change is the same in
11 each case. One case it's going from dark to
12 light, the other case it's going from light to
13 dark, our eye perceives the same effect.

14 Q. So the ideal quantity of light of
15 turning a pixel off is the same as the ideal
16 quantity of light as turning a pixel on?

17 A. For calculating the brightness
18 change, of course it is.

19 Q. Now, if I could get Mr. Eccles'
20 direct, LGD 160-011.

21 Now, you would agree, wouldn't
22 you, Dr. Silzars, that the portion that's shaded
23 in the figure on the right, the cross hatched
24 area under the curve represents a portion of the

1 quantity of light output through a liquid
2 crystal; isn't that right?

3 A. Yes.

4 Q. May I get 016, from Mr. Eccles'
5 direct.

6 Now, you would agree that in a
7 figure on the right, the area under the curve
8 that's shaded in green represents the quantity
9 of light equal to the actual brightness level
10 output through a liquid crystal summed over a
11 time period including the rise and fall time of
12 the liquid crystal, wouldn't you?

13 A. That does -- it's not a comparison
14 to anything that we're dealing with in the
15 patent, but there is a light level that could be
16 assigned to that.

17 Q. I would like to ask you a couple
18 of quick questions about the '157 patent.

19 And if I could get his expert
20 report, rebuttal report, paragraphs 14 to 18.
21 Now, if I can get the heading and paragraphs 14
22 and 15.

23 You would agree with me, wouldn't
24 you Dr. Silzars, that you did not offer an

1 opinion in your expert report that US Patent
2 7,380,972 to Shimizu does not meet all the
3 limitations of Claim 1 of the '157 patent; is
4 that correct?

5 A. I would have to review my report
6 to be able to verify that for you.

7 Q. What you see in front of you for
8 photograph 14 and 15, you didn't say anything,
9 did you?

10 A. I'm not sure what you put up here.
11 Is this part of my report?

12 Q. Yes, it is.

13 A. Okay. I did not hear you tell me
14 that. And your question, please repeat your
15 question.

16 Q. You do not offer an opinion as to
17 whether or not Shimizu discloses each and every
18 limitation of Claim 1 of the '157 patent, do
19 you?

20 A. That is because of my
21 understanding that it was not prior art, so I
22 did not feel the need to offer an opinion.

23 Q. Again, if he could have the Elmo
24 again, please. I would like to show you what's

1 been marked as LG Display Trial Exhibit 1095,
2 which is the first page of the PCT publication.
3 Have you reviewed this document before?

4 A. I can't -- it's a blur, so I am
5 not sure what we're looking at here.

6 Q. Well, if we look up in the top
7 right, this is Shimizu; isn't that right?

8 A. That I can read.

9 Q. If we look at the figures, those
10 are Figures 1A and 1B from the Shimizu patent;
11 is that right?

12 A. Since they're on this page, I'm
13 assuming that's correct, yes.

14 MR. GOODWYN: Your Honor, at this
15 time I would like to offer into evidence LG
16 Display Trial Exhibit 1095 which is the PCT
17 patent.

18 THE COURT: It's admitted.

19 BY MR. GOODWYN:

20 Q. Could I get the direct slide from
21 Mr. Smith-Gillespie which is 506-013.

22 These are three -- or photographs
23 of three different devices, an HP iPAQ 2210,
24 another HP iPAQ 2210, and another HP iPAQ 2215.

1 These photographs represent the three products
2 you reviewed, don't they?

3 A. I reviewed three products, but I
4 cannot represent to you just by looking at the
5 photographs if those are the products. And I
6 also -- I've had questions about what products
7 are they actually identifying because on some of
8 the products there was -- I could not find a
9 product number, so if these are indeed the three
10 -- and the reason I'm bringing that up as a
11 question is because Mr. Smith-Gillespie
12 apparently reviewed many others, but if these
13 are the -- you tell me that these are the three,
14 then I would accept that as fact.

15 Q. Well, the photograph on the
16 left-hand side, there is some annotations. Is
17 that your handwriting?

18 A. It appears to be, yes.

19 Q. The structures shown in all these
20 photographs with respect to the '506 patent are
21 the same, aren't they, first flexible printed
22 circuit board, second flexible printed circuit
23 board, third flexible printed circuit board, all
24 soldered?

1 A. I think to be precise we should go
2 through the claim terms, but in a rough sense,
3 yes, they are certainly very similar.

4 Q. You would agree that each and
5 every one of the elements shown in the figure on
6 the left, each of the elements of Claim 1 are
7 disclosed in the HP iPAQ 2210 photograph on the
8 left; isn't that right?

9 A. You said Claim 1.

10 Q. Yes.

11 A. Yes, I believe they are.

12 Q. And you would agree that the two
13 elements on the flexible printed circuit boards
14 where you've identified the alignment marks
15 connects to the LED; isn't that right?

16 Carries light signals?

17 A. Yes.

18 Q. And you would agree that these
19 products are hot bar soldered?

20 A. Yes.

21 Q. If I could see the photograph of
22 506-011.

23 MR. GOODWYN: I need one second.

24 (Following a discussion held off

1 the record:)

2 MR. GOODWYN: Can I have the elmo,
3 please?

4 BY MR. GOODWYN:

5 Q. Okay. Do you know whether what's
6 shown on the board now is a picture that you
7 took when you examined the -- one of the
8 products?

9 A. It's -- I believe it is. It's
10 certainly very similar to a picture that I took.

11 Q. Well, if we look at this
12 photograph, and it's actually with the
13 production number AUO-LGD 0166676. Do you see
14 that at the bottom right-hand corner?

15 A. Yes, I do.

16 Q. That was a photograph produced by
17 AUO in this case, which I believe was one that
18 you took or --

19 A. Yes, looking at the background, I
20 believe it's the conference table. And just
21 based on that, I would say it's the photograph I
22 examined just a day or two ago.

23 Q. Okay. You see on this product
24 where it says product number FA103A?

1 A. I do see that. Yes.

2 Q. Did you review any HP sales data
3 produced by Hewlett-Packard in this case?

4 A. I did not. there was some --
5 there was some information that was being
6 represented as sales data shown to me during my
7 deposition. I can't verify what that -- what
8 that document was.

9 Q. Do you recall seeing entries that
10 referred to FA103A in that sales data?

11 A. Not as I sit here right now.

12 MR. GOODWYN: Could I have the --
13 one last question -- from Mr. Smith-Gillespie,
14 506-011.

15 BY MR. GOODWYN:

16 Q. Would you agree that overlapping
17 alignment marks are shown in the photograph that
18 you took and marked as alignment marks in --
19 overlapping alignment marks within the context
20 of the asserted claims?

21 A. I would agree that there are
22 alignment marks. Yes.

23 Q. Would you agree that they're
24 overlapping alignment marks?

1 A. It's hard to tell that from
2 looking at just the photograph.

3 Q. Can you zoom in on the portion
4 that's -- actually zoom in on just the portion
5 that he has identified as alignment marks.

6 Right here. Right there where
7 those circles are, can you tell now whether or
8 not it has overlapping alignment marks?

9 A. Yes.

10 Q. It does?

11 A. I believe so, yes.

12 MR. GOODWYN: No more questions.

13 Oh, I'd like to offer into
14 evidence the unfortunately not very good figure
15 I threw on the elmo, but it's marked LG Display
16 Trial Exhibit 1096.

17 THE COURT: It's admitted.

18 MS. HOLLOWAY: I'm sorry, Your
19 Honor. No redirect.

20 THE COURT: Okay. Thank you. You
21 may step down.

22 MR. DIETZEL: Your Honor, our next
23 witness for AUO is a gentleman named Kuang-Tao
24 Sung, and he's going to require translators. So

1 if we can go ahead and get them set up and then
2 call him in.

3 MR. SHULMAN: We are near the
4 bitter end, Your Honor.

5 MR. DIETZEL: Do you mind if I
6 hand out binders?

7 THE COURT: That's fine.

8 THE CLERK: Please state and spell
9 your full name for the record.

10 THE WITNESS: Kuang-Tao Sung.
11 K-U-A-N-G T-A-O S-U-N-G.

12 THE CLERK: Do you prefer to swear
13 or affirm?

14 THE WITNESS: Affirm.

15 THE CLERK: Okay. Do you affirm
16 that the testimony that you're about to give to
17 the Court in the case now pending will be the
18 truth, the whole truth and nothing but the
19 truth?

20 THE WITNESS: Yes.

21 THE CLERK: Thank you.

22 MR. DIETZEL: May I proceed, Your
23 Honor?

24 THE COURT: Yes.

1 BY MR. DIETZEL:

2 Q. Mr. Sung, please introduce
3 yourself to the Court.

4 A. My name is Kuang-Tao Sung.
5 Currently working for AUO in the Shingzu
6 facility.

7 Q. How long have you worked for AUO?

8 A. Since the year of 2000 until this
9 time, approximately eight years.

10 Q. Okay. And have you ever worked in
11 AUO's audio-video product group?

12 A. Yes. Since 2000 to 2006, I'm
13 responsible for cellular phones, and portable
14 devices and the small LCDs.

15 Q. Okay. Can we have Exhibit AUO
16 0011?

17 Mr. Sung, do you recognize this
18 document?

19 A. Yes. I do recognize it. This is
20 the '506 patent invented by Jun-Hsian Lao and
21 myself.

22 Q. When did you come up with the
23 ideas described in the '506 patent?

24 A. Approximately late 2002 or early

1 2003.

2 Q. And are you aware of any
3 documentation reporting your early work on the
4 concepts described in the '506 patent?

5 A. Yes. We do have some mechanical
6 drawings to prove.

7 Q. Okay. Can we have Exhibit AUO
8 1545, please?

9 Mr. Sung, do you recognize this
10 document?

11 A. Yes. I do recognize it. This is
12 a mechanical drawing of a transmitter card FPC.

13 Q. Do you know when these drawings
14 were created?

15 A. You can tell from the upper
16 right-hand corner of this. It was created
17 before January 15th, 2003.

18 Q. Is there a particular set of
19 images in Exhibit AUO 1545 that captures the
20 concept of the '506 patent as of January 15th,
21 2003?

22 A. Yes. You can tell from the front
23 view, rearview and detailed view of this
24 drawing.

1 Q. Okay. Can we have Slide SS-101?

2 And, Mr. Sung, are these the front
3 and rearview of the main FPC you identified in
4 AUO 1545 that we just discussed?

5 A. Yes.

6 Q. Can you please describe for the
7 Court what is indicated in each of A through C?

8 A. Yes, I can.

9 B is what connects to the LCM end.
10 And C is the end that connects to the system
11 end.

12 A is the embodiment of the FPC.
13 It is used to transmit signals back and forth in
14 between B and C.

15 Q. If we could have slide SS-102,
16 please.

17 And, Mr. Sung, is this the detail
18 of the back light and touch panel contact pads
19 you've identified in Exhibit AUO 1545 that we
20 just discussed?

21 A. Yes.

22 Q. Can you describe to the Court,
23 please, what is indicated in each of D through
24 G?

1 A. Okay. D is the soldering contact
2 pad. It is used for touch panel FPC.

3 E is a soldering contact pad for
4 the use for the LED backlight FPC.

5 F and G are alignment marks
6 respectively for the use of the touch panel as
7 well as the LED backlight. In this design, we
8 use holes as alignment marks.

9 Q. If we could have Exhibit AUO 1546,
10 please.

11 Do you recognize this document,
12 Mr. Sung?

13 A. This is a mechanical drawing of a
14 touch panel.

15 Q. Do you know when these drawings
16 were created?

17 A. You can tell from the upper
18 right-hand corner of this drawing. This drawing
19 was created before January 22nd, 2003.

20 Q. And is there a particular set of
21 images in Exhibit AUO 1546 that capture the
22 concepts in the '506 patent as of January 15,
23 2003?

24 A. Yes. They can be seen in the

1 front view and detail view of this picture.

2 Q. Can we have slide SS-103, please.

3 And are these images the front view of the touch
4 panel assembly and the contact pad detail you
5 identified in AUO 1546 that we just discussed?

6 A. Yes.

7 Q. Can you describe for the Court,
8 please, what is indicated in each of the labels
9 H through K?

10 A. Yes, I can.

11 H is the embodiment of the touch
12 panel. I is the touch panel FPC used to
13 transmit touch panel signals. J is the
14 soldering contact pads. They will be soldered
15 onto the corresponding areas of the transmitter
16 card FPC. K is the alignment mark which we left
17 there. In this design, we used a hole as the
18 assignment mark.

19 Q. Can we please have Exhibit AUO
20 1544.

21 A. Okay.

22 Q. Mr. Sung, do you recognize this
23 document?

24 A. This is a mechanical drawing of an

1 LED backlight FPC.

2 Q. Do you know when these drawings
3 were created?

4 A. You can tell from the upper
5 right-hand corner of this drawing it was created
6 before January 27, 2003.

7 Q. And is there a particular set of
8 images in Exhibit AUO 1544 that capture the
9 concepts in the '506 patent as of January 15,
10 2003?

11 A. Yes, you'll be able to see them on
12 the front view and the detailed view of this
13 drawing.

14 Q. Can we have slide SS-104, please.
15 Are these the front view of the light source
16 assembly and the contact pad detail you
17 identified in Exhibit AUO 1544 that we just
18 discussed?

19 A. Yes.

20 Q. Can you describe for the Court
21 what is indicated in each of the labels L
22 through O, please?

23 A. L is a part of the backlight
24 structure. M is the FPC used for transmitting

1 the signals that is needed by the backlight. N
2 is the soldering contact pad used to solder on
3 to the corresponding areas on the transmitter
4 card FPC. O is alignment mark. Over here we
5 used a hole as alignment mark.

6 Q. You mentioned alignment holes.
7 How are those used?

8 A. The operator will use a pin to
9 position the first FPC. And then the operator
10 will use the pin to position the hole on the
11 second FPC. Through the pin the holes on the
12 two FPCs and the soldering pads will be aligned
13 and overlapped. And then the operator will
14 proceed with the soldering process.

15 Q. Can I have AUO 1544, please.

16 Did you ever use alignment marks
17 other than alignment holes?

18 A. Yes. You can tell from this
19 drawing, you can tell from this drawing on both
20 sides of the soldering contact pads, there are
21 some T-shaped pads. Over here we used a contact
22 pads as alignment marks. Corresponding to the
23 first FPC there would be corresponding alignment
24 marks as well.

1 Q. Was a product with the concepts of
2 the '506 patent ever made?

3 A. Yes. In July of 2003, we made
4 some products.

5 Q. How do you know there were
6 products made by July 2003?

7 A. You can tell from the upper
8 right-hand corner where the instructions were on
9 the transmitter card FPC drawing.

10 Q. Can you bring up AUO 1545, please.
11 Blow up the box in the upper right. Third line
12 from the bottom. Is this the line you were
13 referring to, Mr. Sung?

14 A. That is correct.

15 Q. Did these samples include
16 alignment marks?

17 A. Yes, there are. The alignment
18 marks on these samples were expressed with
19 holes.

20 Q. Did you ever make samples or
21 prototypes with contact pads as alignment marks?

22 A. Yes. Yes.

23 You can tell from the drawing we
24 had just viewed earlier, which were the

1 touch-panel FPC as well as the LED back light
2 FPC. You can tell that there were drawings
3 there.

4 We had used contact pads as
5 alignment holes.

6 THE INTERPRETER: Excuse me.
7 Interpreter correction. We had used contact
8 pads as alignment marks.

9 BY MR. DIETZEL:

10 Q. What types of soldering are used
11 by AUO to assemble products incorporating
12 concepts described in the '506 patent?

13 A. At AUO, the soldering method that
14 we used there were -- there are two types. One
15 type is manual soldering. The other type is
16 machine soldering.

17 Q. From the design perspective, is
18 there a reason to choose manual soldering over
19 machine soldering?

20 A. From the perspective of a
21 designer, either machine soldering or manual
22 soldering -- either machine soldering or manual
23 soldering, they provide the two FPCs that needed
24 electrical connection and mechanical connection.

1 To a designer, there are no
2 differences.

3 Q. For the prototypes in sample
4 products that were shipped in July 2003, how had
5 the FPCs bonded together?

6 A. They used machine soldering.

7 Q. And the prototypes that you built?

8 A. We used manual soldering on the
9 prototype.

10 Q. Can we have Exhibit AUO 0235?

11 Mr. Sung, do you recognize this
12 document?

13 A. Yes. I can recognize it.

14 This is the invention disclosure
15 for the; 506 patent. This disclosure
16 represented by us approximately around December
17 of 2003.

18 Q. Can you tell me what's disclosed
19 in this document?

20 A. This document disclosed everything
21 that we had just discussed.

22 Q. If we can turn to Page 5 of this
23 exhibit, please. Can you tell me what's
24 described here?

1 A. Over here it describes two of the
2 methods in order to -- connect the FPCs. It
3 indicates that it uses -- the first one says
4 soldering process is used in order to connect
5 the two FPCs.

6 THE INTERPRETER: Interpreter
7 correction. The witness had just indicated
8 method four indicates that soldering process is
9 used in order to connect the FPCs.

10 At AUO, we use a heated head and
11 soldering material. We solder by using either a
12 manual soldering or machine soldering.

13 The second method would be method
14 number five indicated on this document. It
15 describes using ACF in order to connect the two
16 FPCs.

17 BY MR. DIETZEL:

18 Q. Okay. Can we have AUO 1545?

19 And can you tell me if there was
20 any work being done on this project between
21 January and December 2003?

22 A. Yes. This document gives a very
23 detailed description, which you can tell from
24 the upper right-hand corner. From January

1 through November or December, we had made many
2 revisions. All of those were for the testing
3 and also revision for the '506.

4 Q. Okay. And do you recall when the
5 first application for patent was filed for you
6 and Mr. Lao's idea?

7 A. In December of 2003, we presented
8 the invention disclosure to AUO internally.
9 Around February of 2004 or so, we passed the
10 internal examination and evaluation process of
11 AUO.

12 It was April 2004 or so, it was
13 submitted to the Taiwanese relevant agency.

14 Q. Do you recall when your
15 application for patent was filed in the United
16 States?

17 A. As I recall, it was approximately
18 around August of 2004 or so.

19 MR. DIETZEL: Your Honor, before
20 passing the witness, I'd like to offer into
21 evidence stuff that we looked at today.

22 AUO 0235, and AUO 1022, which is
23 an English translation of 235.

24 I'd also like to offer AUO 1544,

1 AUO 1545 and AUO 1546 into evidence.

2 And in addition, Slides SS-101 as
3 AUO 1611.

4 SS-102 as AUO 1612.

5 SS-103 as AUO 1613.

6 SS-104 as AUO 1614.

7 THE COURT: All right. They'll
8 all be admitted.

9 MS. BRZEZYNSKI: Your Honor, can I
10 reserve an objection as untimely.

11 THE COURT: Yes.

12 CROSS-EXAMINATION

13 BY MS. BRZEZYNSKI:

14 Q. Good afternoon, Mr. Sung.

15 A. Hi. Good afternoon.

16 Q. Do you understand that AUO served
17 an interrogatory answer in this case in
18 September of 2008 saying that the conception
19 date for the '506 was December of 2003?

20 A. I'm not aware.

21 Q. Do you understand that AUO also
22 served an interrogatory answer in 2008 in
23 September saying that the '506 was
24 constructively reduced to practice by April 19,

1 2004?

2 A. I'm not aware.

3 Q. Let me go ahead and show you Trial
4 Exhibit 1089, please. This is AUO's
5 interrogatory response from September of 2008.
6 Let's go to page three, please. Do you see the
7 statement the '506 was conceived at least by
8 December 16, 2003? Do you see that, sir?

9 A. Yes. But I cannot really say that
10 I understand the meaning of what it's saying
11 here.

12 Q. That's fine. Let's go to the next
13 page, please. Do you see the top line, the '506
14 was constructively reduced to practice by April
15 19, 2004. Do you see that, sir?

16 A. I do understand the date, but I do
17 not quite understand the meaning of the writings
18 before that.

19 Q. Are you saying that AUO never
20 discussed its interrogatory answer in September
21 of 2008 with you?

22 A. I do not quite understand. What
23 do you mean by discussed?

24 Q. Did anyone at AUO speak with you

1 regarding its interrogatory answer in September
2 of 2008?

3 A. No.

4 Q. Let's go to the next page. Do you
5 see that is dated September of 2008?

6 A. Yes.

7 MS. BRZEZYNSKI: Your Honor, I
8 would like to move into evidence Trial Exhibit
9 1089, please.

10 THE COURT: It's admitted.

11 BY MS. BRZEZYNSKI:

12 Q. Do you understand that AUO never
13 supplemented or changed its interrogatory answer
14 until Wednesday, June 3rd, 2009?

15 A. I'm not aware.

16 Q. Do you understand that AUO now
17 says that the conception date for the '506 was
18 eleven months earlier in January of 2003?

19 A. I do not know.

20 Q. Let's show the '506 patent,
21 please. The application for this patent was
22 filed on August 19th, 2004; correct?

23 A. Yes.

24 Q. The foreign application date was

1 also in 2004; correct?

2 A. Yes.

3 Q. In fact, it was April 19, 2004;
4 right?

5 A. Are you talking about the foreign
6 portion, 2004 in April?

7 Q. Yes, the portion that's
8 highlighted.

9 A. Yes. You mean the Taiwan portion?

10 Q. Yes. That was filed on April
11 2004; correct?

12 A. Yes.

13 Q. Let's go ahead and show you your
14 invention disclosure statement, that's AUO 1022.
15 You signed this form; right?

16 A. Can you enlarge the lower
17 left-hand corner, please. It doesn't look very
18 clear to me, therefore, I am not very certain.

19 Q. Let me go ahead and give you my
20 copy, sir.

21 MS. BRZEZYNSKI: Your Honor, may I
22 approach?

23 THE COURT: Yes.

24 BY MS. BRZEZYNSKI:

1 Q. Here you go. Is that your
2 signature on the bottom?

3 A. Yes, it is my name.

4 Q. Is it standard practice at AUO to
5 wait eleven months after an invention to prepare
6 an invention disclosure statement?

7 A. At AUO, we actually encourage to
8 make sure and confirm that the concept is valid
9 before we would submit an invention disclosure.

10 Q. But the standard practice at AUO
11 is to prepare the invention disclosure very
12 close in time to the invention; isn't that
13 correct?

14 A. I did not know the practice of
15 other people, but in my department, including
16 myself and my colleague, you have to make sure
17 of your invention, which is valid before you can
18 proceed further.

19 Q. So are you saying that you did not
20 appreciate that you had an invention until
21 December of 2003?

22 THE INTERPRETER: May the
23 interpreter ask that the question be read back?

24 MS. BRZEZYNSKI: Sure.

1 (The reporter read back as
2 instructed.)

3 THE WITNESS: No, what I said was
4 that I had this idea in or about late 2002 or
5 early 2003. We went through some time for
6 testing and we also thought about what are the
7 other ways that can make the production and
8 manufacturing more efficient.

9 A. Ultimately, at a later time, we
10 wrote it down on the invention disclosure form.

11 Q. And inventors at AUO are
12 compensated for preparing and submitting
13 invention disclosure forms; correct?

14 A. Yes, approximately anti dollars
15 500.

16 Q. And inventors are also compensated
17 for an invention that results in the filing of a
18 patent application; correct?

19 A. To submit; no.

20 Q. Inventors at AUO get paid not only
21 for the invention disclosure form, they also get
22 paid for the filing of a patent application;
23 isn't that correct?

24 A. I don't know what is being done

1 currently, because it has been a long time since
2 I wrote any. But back in that time, no, we did
3 not have any.

4 Q. All right. Do you have any reason
5 to doubt the testimony of Spencer Yu?

6 A. I do not know what his testimonies
7 are, so therefore, I'm not able to answer that
8 question.

9 Q. Mr. Yu testified that inventors at
10 AUO get paid not only for submitting the
11 invention disclosure form, but also the patent
12 application.

13 A. So?

14 Q. Do you have any reason to doubt
15 hit testimony, sir?

16 MR. SHULMAN: I don't want to
17 interrupt, but by my calculation, their time
18 expired a few minutes ago.

19 MS. BRZEZYNSKI: Your Honor, I
20 would request the Court's indulgence. I had
21 understood on Friday from counsel that this
22 witness would not be a translated deposition.

23 So we had allocated approximately
24 15 minutes for cross, which is what it would

1 have been. But now that it's translated,
2 obviously it's taking much longer.

3 In addition, given that this is a
4 surprise witness, we request the Court's
5 indulgence and request an additional 15 minutes.

6 MS. HOLLOWAY: Your Honor, I'd
7 like to respond to that. It is not true.

8 Counsel asked me whether or not
9 the witness would testify with a translator. I
10 said I did not know. I wasn't sure how good his
11 English was. We would certainly have a
12 translator brought in.

13 They deposed him with a
14 translator.

15 MS. BRZEZYNSKI: That is certainly
16 not my understanding from our conversation on
17 Friday.

18 THE COURT: Okay. You have a few
19 more questions.

20 MS. BRZEZYNSKI: I have about ten
21 minutes more, Your Honor.

22 THE COURT: I don't want to go
23 past. If you do have a couple questions you
24 really want to zero in on, I'll let you ask two

1 or three questions. Then we'll wrap it up.

2 Two or three best questions.

3 THE INTERPRETER: The interpreter
4 has not yet interpreted the last response.

5 MS. BRZEZYNSKI: Okay. Could I
6 have the response?

7 THE INTERPRETER: He's in the
8 legal department.

9 BY MS. BRZEZYNSKI:

10 Q. You had your deposition taken in
11 this case; correct?

12 A. Yes.

13 Q. And at your deposition, you did
14 not testify that the conception date for the
15 '506 was January 15th, 2003, did you?

16 A. That is correct, because your
17 people did not ask me.

18 Q. And the documents that you were
19 shown on the screen today, you did not -- you
20 did not raise those documents with LG Display
21 counsel during your deposition; correct?

22 A. My job at that time was to be a
23 witness. Therefore, I was not aware that that
24 was supposed to be my job.

1 Q. You never informed LG Display's
2 counsel that your conception date was, in fact,
3 January of 2003; isn't that right?

4 A. They did not ask; therefore, I did
5 not mention it.

6 Q. During your deposition, you
7 testified that in manual soldering, no pressure
8 should be applied by the operator; correct?

9 MR. SHULMAN: Your Honor, we're
10 now onto a new subject. You said two or three.
11 This is number five.

12 MS. BRZEZYNSKI: Your Honor, I
13 just have a few more questions I'm trying to ask
14 the witness.

15 THE COURT: Well, just get to
16 them. Just ask them and get his answers.

17 MS. BRZEZYNSKI: Okay.

18 THE COURT: Two questions. One,
19 two. I am trying to get down to two questions.

20 A. At my deposition, yes, that is
21 what I said. Because the attorney who asked me
22 the question he never indicated how much of a
23 pressure.

24 Q. In fact, you said no pressure,

1 isn't that correct? Do I have to show you your
2 deposition testimony?

3 A. That is correct. For instance, if
4 you press on this piece of paper like this, it's
5 not considered adding pressure.

6 Q. You were shown slides referring to
7 Model H027QT01 and those products were sold in
8 the United States -- excuse me, were sold by AUO
9 in 2003; correct?

10 THE COURT: That's the last
11 question. Relax.

12 THE WITNESS: I did not see the
13 document, therefore, I do not know. And also I
14 do not work for the sales department, I'm an
15 inventor. And also questions like these may be
16 better to be posed to our sales department
17 personnel.

18 Q. So you're not --

19 THE COURT: That's it. We're not
20 going to have time to hear from the salespeople.

21 MR. BONO: Your Honor, just two
22 little housekeeping matters.

23 THE COURT: Let me make sure, are
24 there any exhibits you want to admit?

1 MS. BRZEZYNSKI: Your Honor, I
2 would like to admit the AUO sales information
3 that I just put up, and that LG Display 407.

4 THE COURT: It's admitted.

5 MR. SHULMAN: Your Honor, we have
6 some housekeeping matters that we over the
7 weekend reviewed everything that was referred to
8 during the trial and realize that certain
9 exhibits hadn't been offered and that's what we
10 want to do now if that's all right.

11 THE COURT: Yes.

12 MR. SHULMAN: Ms. Morgan will
13 handle that.

14 MS. MORGAN: Thank you for your
15 patience, Your Honor. So beginning --

16 THE COURT: Did you have any other
17 -- I see you holding another exhibit?

18 MR. BONO: Before she goes into --
19 I just have two items. I would like to offer
20 LGD Trial Exhibit 1092 which is a list of our
21 technical reports that are taken from Exhibits
22 399, 401 and 403. And I would like to move for
23 the admission of this list as well as the
24 underlying documents.

1 THE COURT: That will be admitted.

2 MR. BONO: And then just house --
3 and then as part of the deposition designations,
4 Your Honor, there I would like to move LG
5 Exhibit 1093 which is the signed errata sheet by
6 Mr. K.H. Moon, and that's Exhibit 1093.

7 And then I would like to move also
8 Exhibit LGD Exhibit 1094 which is the errata
9 sheet of Mr. C.J. Kim. I would like to move
10 those into evidence.

11 THE COURT: Admitted.

12 MR. GOODWYN: Your Honor, real
13 quickly, there were a couple of slides that were
14 used during the cross-examination of
15 Dr. Silzars, they were printouts from LG
16 Display, Trial Exhibit 380, and I would like to
17 mark those printouts as LG Display Trial Exhibit
18 109 seven and there was one more slide that
19 Dr. Silzars used on his direct, which was marked
20 as 629-110, and I would like to offer that as
21 Exhibit LG Display Trial Exhibit 1098.

22 THE COURT: It will be admitted.

23 Now you're on.

24 MS. CAPLAN: In addition just to

1 clarify the record, we would like to move for
2 admission the actual mask files, the printout
3 was admitted as LGD Trial Exhibit 1079 with
4 actual mask file from LGD Trial Exhibit 380
5 which is TV_P6_LC320W01_B6_T6CWOWC06_G0005.gds.
6 I would like to move those to be admitted.

7 In addition we like to move for
8 the actual mask file NBPC_P2_10.4_SVGA_G0005.gds
9 which is taken from LGD Trial Exhibit 380. The
10 printout was already admitted as LGD Trial
11 Exhibit 1080. We would like to move for the
12 admission of the actual mask file. In addition
13 --

14 THE COURT: All right. It's
15 admitted.

16 MS. KAPLAN: Thank you, Your
17 Honor. In addition there was a list in
18 Dr. Rubloff's witness binder contains 46
19 items -- those are 46 mask files that
20 Dr. Rubloff testified that he reviewed. We
21 would like that list to be marked as LGD Trial
22 Exhibit 1099.

23 THE COURT: Admitted.

24 MS. CAPLAN: And all the mask

1 files on there to be admitted as well. In
2 addition to the printouts of those mask files
3 which were also in Dr. Rubloff's binder, we can
4 just mark this as 1099-1 and so on through 46 to
5 coincide with printouts from the binder. Does
6 that make sense?

7 THE COURT: They'll be admitted.

8 MS. CAPLAN: In addition there are
9 two printouts at the end of the binder that were
10 not numbered which we would like to move for
11 their admission as well and those are printouts
12 of the following mask files, C7160VA01.GDS which
13 is Cell: 60LAY_PNL_\$49 and the mask file is from
14 Trial Exhibit 380.

15 We'd also move for the admission
16 of the printout of C7160VA01.gds, which is
17 Cell:LAY_PNL that is also taken from the LGD
18 Trial Exhibit 380 as well.

19 In addition, Your Honor, on June
20 3rd, we moved to admit LGD Trial Exhibit 862,
21 which is the file history for the '157 patent.
22 The transcript -- the transcript, however,
23 reflected the admission of 682, and I would just
24 like to have that corrected that we actually

1 move for the admission of 862. Perhaps we
2 misspoke.

3 THE COURT: Correction noted.

4 MS. CAPLAN: On June 4th we moved
5 to admit LGD Trial Exhibit 1085, which were the
6 demonstratives from Mr. Eccles and LGD -- and I
7 just wanted to be clear it was 1085 to the 1058
8 as noted at least once in the transcript.

9 THE COURT: Okay. It's noted.

10 MS. MORGAN: We reserve our
11 objections with respect to LGD's exhibits.

12 THE COURT: Sure.

13 MS. MORGAN: So for the few
14 corrections beginning with today's testimony,
15 during the Dr. Silzars' testimony, we move to
16 admit the following exhibits that were used.

17 AUO 1538, AUO 1586, AUO 1587, AUO
18 1593, AUO 1594, AUO 1601, AUO 1608.

19 Then --

20 THE COURT: They'll be admitted.

21 MS. MORGAN: Thank you, Your
22 Honor. Then we seek to admit AUO 62, which was
23 read in concurrently with deposition transcript
24 testimony on the -- day one of trial.

1 We also seek to admit AUO 63 for
2 the same reason. AUO 65 for the same reason.
3 And AUO 67.

4 In addition, we seek to admit AUO
5 80. This was used in the deposition of Qui
6 Young Moon, which was read in the transcript and
7 was also used in the cross-examination of
8 Mr. Smith-Gillespie.

9 We also seek to admit AUO 85.
10 That was read into the transcript during
11 deposition testimony as well. Same with AUO 86,
12 AUO 87, and AUO 88.

13 And AUO 162, AUO 176, AUO 218, and
14 then we seek to admit the following exhibits.

15 THE COURT: They will all be
16 admitted.

17 MS. MORGAN: Thank you, Your
18 Honor. We seek to admit the following exhibits,
19 because they are translations of admitted
20 exhibits.

21 AUO 130, AUO 132, AUO 134, AUO
22 136, AUO 138, AUO 140, AUO 142, AUO 144, AUO
23 146, AUO 148, AUO 150, AUO 152, AUO 154, AUO
24 158, AUO 161, AUO 165, AUO 168, AUO 170, AUO

1 172, AUO 174, AUO 177, AUO 179, and AUO 185.

2 And then we seek to admit exhibit
3 AUO 180 as the underlying original document
4 after translation that was already admitted.

5 THE COURT: All right. They'll be
6 admitted.

7 MS. BRZEZYNSKI: LG Display
8 reserves its objections.

9 MS. MORGAN: And then we seek to
10 admit AUO 251, which was used in the deposition
11 testimony of Mr. Woo. We just need to correct
12 the transcript. The transcript reflects AUO 51
13 and it should be 251. This was on day two of
14 the transcript.

15 THE COURT: That will be
16 corrected.

17 MS. MORGAN: Thank you, Your
18 Honor. Then a similar correction, also from day
19 two, the transcript reflects that AUO 52 was
20 entered, but it should be AUO 252.

21 THE COURT: All right. That will
22 be corrected.

23 MS. MORGAN: Thank you, Your
24 Honor.

1 Then we seek to admit AUO 283,
2 which was an exhibit used during the direct
3 examination of Dr. Putnam. The record needs to
4 be corrected from day three of that testimony,
5 because the numbers were transposed. It was a
6 typographical error.

7 THE COURT: All right.

8 MS. MORGAN: Then we seek to admit
9 AUO 288, which was discussed during the direct
10 examination of Dr. Putnam on day three and AUO
11 289, which also is discussed during the direct
12 examination of Dr. Putnam.

13 In addition, Your Honor --

14 MR. CHRISTENSON: We'll reserve
15 all our objections on those exhibits.

16 MS. MORGAN: We also seek to admit
17 AUO 305, AUO 311, AUO 327, because they are
18 translations of admitted exhibits.

19 THE COURT: All right.

20 MS. MORGAN: Then we ask to admit
21 AUO 451. It was -- AUO 47 was listed on AUO
22 1532. 1532 lists the documents Dr. Silzars
23 relied upon for the '506 patent.

24 But that was a typographical

1 error. So AUO 47 will be moved to admit those
2 underlying exhibits. AUO 47 should be AUO 451.

3 THE COURT: All right.

4 MS. MORGAN: And for the same
5 reason, I'm going to read what was there and
6 what should be there.

7 So what AUO 372 should be -- I'm
8 sorry. AUO 485 should be AUO 372. AUO 486
9 should be AUO 373.

10 AUO 488 should be AUO 375. AUO
11 491 should be AUO 395. And AUO 491 should be
12 AUO 395.

13 And then AUO 496 should be AUO
14 404. AUO 499 should be AUO 407.

15 AUO 500 should be AUO 408. And
16 AUO 506 should be AUO 419. The prints were
17 submitted as exhibits, and we're relacing those
18 with the native files is what this does.

19 Then, Your Honor, we -- so I
20 request that all those be admitted.

21 THE COURT: I'm not -- when you
22 say that you're replacing them, I'm not sure I
23 understand. Isn't that going to affect the
24 transcript and the witness' testimony?

1 MS. MORGAN: Actually these
2 documents were submitted as exhibits.

3 Let me start over. We moved to
4 admit an exhibit that Dr. Silzars relied upon
5 regarding the '506 patent, and it lists a number
6 of exhibits there. And then we moved to admit
7 those underlying exhibits.

8 And so we're seeking to admit --
9 we're seeking to admit the native files.

10 THE COURT: What are those
11 numbers?

12 MS. MORGAN: We are seeking to
13 admit the native files that relate to those
14 exhibits.

15 THE COURT: I guess, but...

16 It's not my transcript, and it's
17 not my record, but...

18 MS. MORGAN: Your Honor, then I
19 would just request that they be admitted in
20 addition to.

21 THE COURT: No, you can admit
22 them. But how would I put this? You may get be
23 getting a record that could be confusing.

24 MS. MORGAN: I understand, Your

1 Honor's concern.

2 THE COURT: It's not my concern.
3 I'm not appealing.

4 MS. MORGAN: I understand. We'll
5 ask that they just be admitted in addition to.

6 THE COURT: Okay.

7 MS. BRZEZYNSKI: Your Honor, LG
8 Display would like to note its objection for the
9 record.

10 MS. MORGAN: So for clarity, I'll
11 just read real quick the exhibits that are
12 narrative files. It is AUO 419, AUO 451, AUO
13 372, AUO 373, AUO 375, AUO 395, AUO 404, AUO
14 407, AUO 408, AUO 419.

15 And then, Your Honor, there is
16 just a couple more, a few more. We request to
17 admit AUO 444. It was identified -- there is a
18 typographical error in Dr. Silzars' Exhibit
19 1532. The identified exhibit in 1532 is 357 and
20 it should be 444.

21 THE COURT: All right.

22 MS. MORGAN: And the same thing
23 for -- in that same exhibit, it identifies AUO
24 553, and that should be AUO 539. Those are --

1 so AUO 553, that is within Exhibit AUO Exhibit
2 1534 should be AUO 539.

3 MR. BONO: Can I ask just one
4 clarification. Did we overrule the correction
5 of those other documents and you just move
6 the --

7 MS. MORGAN: Just the.

8 MR. BONO: So there will be no
9 correction for purposes of the transcript?

10 MS. MORGAN: Correct.

11 MR. BONO: Thank you.

12 MS. MORGAN: Thank you.

13 AUO Exhibit 284 was admitted
14 during the direct examination of Dr. Putnam and
15 we would like to admit two exhibits underlying
16 that were listed in that exhibit, it is AUO 703
17 and AUO 704.

18 THE COURT: All right. Admitted.

19 MS. MORGAN: We would also like to
20 admit AUO 858 and AUO 859, these were both
21 identified on Dr. Silzars' list considered for
22 the '629 patent as LGD interrogatory responses
23 and I'm just supplying the exhibit numbers for
24 those. That is AUO 858 and AUO 859.

1 THE COURT: All right.

2 MS. MORGAN: And we would like to
3 admit AUO 963. This exhibit was used in the
4 direct examination of Boru Chen. The record
5 reflects that what was admitted was the Exhibit
6 629, and that's an error, it should be 963.

7 THE COURT: All right. That will
8 be corrected.

9 MS. MORGAN: Then we would like to
10 admit Exhibit 964. This exhibit was referenced
11 in the direct examination of Boru Chen.

12 THE COURT: It will be admitted.

13 MS. MORGAN: And we would like to
14 admit the following certifications for
15 translations that are admitted exhibits. They
16 are AUO 983, AUO 984, AUO 985, AUO 986, AUO 988.

17 Then, during day four in the
18 cross-examination of Mr. Smith-Gillespie an
19 exhibit was entered referenced as Exhibit C-14.
20 The trial exhibit number for AUO for that is AUO
21 1082, we seek to have it admitted under that
22 number.

23 THE COURT: All right. It will be
24 admitted.

1 MS. MORGAN: AUO 1529 we seek to
2 have admitted as it's Dr. Silzars' CV, which
3 provides a summary of his direct examination
4 testimony regarding his background.

5 THE COURT: It will be admitted.

6 MS. MORGAN: And then we seek to
7 admit AUO 1542 which was exhibit to the In Duk
8 Song deposition that was read into the record on
9 day one.

10 We also seek to admit AUO 1543
11 which is a license between CMO and Sharp which
12 was one of the licenses Dr. Putnam considered
13 and it was inadvertently left off an exhibit
14 that contained a number of licenses which we
15 moved for admission on.

16 THE COURT: That will be admitted.

17 MS. MORGAN: Then there are
18 slides, Your Honor, that we would like to have
19 admitted as exhibits. AUO 1619 are the slides
20 from Dr. Lao's direct examination.

21 AUO 1620 are slides from
22 Mr. Cheng's direct examination. AUO 1597 are
23 the slides from Dr. Putnam's direct examination.
24 AUO 1616 are the slides from Dr. Silzars' direct

1 examination regarding the '629 patent. AUO 1615
2 are slides from Dr. Silzars' direct examination
3 regarding the '160 patent. AUO 1618 are slides
4 from Dr. Silzars' direct examination regarding
5 the '506 patent. AUO 1617 are slides from
6 Dr. Silzars' direct examination regarding the
7 '157 patent.

8 And then lastly, we ask that a
9 physical exhibit that was used in day one, AUOP
10 1494 be admitted.

11 THE COURT: All right. They'll be
12 admitted.

13 MS. MORGAN: Thank you. And then
14 lastly, Your Honor, we would just like to
15 request because these exhibits contain the
16 confidential information of third party --

17 MR. SHULMAN: Why don't we do that
18 in written form.

19 MS. MORGAN: We will.

20 MR. SHULMAN: Your Honor, what
21 we're going to just -- we've throw a lot of
22 stuff at you in the last ten minutes or so.
23 Mr. Bono and I were conferring, and once all the
24 dust settles, we're going to go over the

1 transcript. They have done a great job, I have
2 been reading the transcript, there are some
3 typos and we'll agree on typographical
4 corrections stipulate to that.

5 And when we come up with an agreed
6 upon official, official, official exhibit list,
7 so that you guys don't have to do all that work
8 and figure out is this in, is it not, what's
9 happened here. So we will put that in along
10 with the briefing at the appropriate time.

11 THE COURT: All right.

12 MR. BONO: Your Honor, I would
13 suggest that if it's all right with AUO's
14 counsel that both sides stipulate and reserve
15 the right to move the admission of any exhibits
16 that have not already been moved in and that we
17 can all reserve our rights to do that at some
18 point rather than trying --

19 THE COURT: You can do that. We
20 have been reading the transcript also as the
21 case goes along, so the transcript is really the
22 guidepost of what has been put into evidence.
23 And I think we talked about before the trial
24 started that a witness had to testify about an

1 exhibit in some manner for it to be admitted.

2 Now, we're allowing a lot of
3 backup apparently to come into the record. But
4 I'm not sure that it's something we'll be
5 looking at.

6 MR. SHULMAN: If no one explained
7 the document, I don't know how we're going to be
8 able to make arguments unless it's some negative
9 inference, because, for example, I think they
10 just moved the admission of some of their expert
11 reports and it's hearsay as of now, it doesn't
12 come in for truth. But we may want to rely upon
13 that in order to prove up some evidentiary
14 objection like the man never said boo about X,
15 therefore, he should have been precluded from
16 testifying about it at the trial because he
17 never offered an opinion on. They'll be used
18 for opinions like that.

19 But I agree, unless someone
20 testifies about a document, we can't make much
21 use of it.

22 THE COURT: That's the only
23 caution I wanted to provide you. So when the
24 decision gets written, it's pretty much taking

1 exhibits that have meaningfully testimony, tying
2 that testimony to some possible incorporation in
3 the exhibit. But a long, deep record may not be
4 helpful for you.

5 MR. SHULMAN: Probably what I
6 would suggest, and I can talk it over, I don't
7 want to take up everybody else's time, it's
8 already 6:30. Once the briefing is in, and we
9 cite to whatever we cite to in our briefs, then
10 probably the record ought to be whatever we cite
11 to in our briefs.

12 MR. BONO: I don't agree with
13 that, Your Honor. And I don't know if
14 Mr. Shulman was inferring something in his
15 statement, but I certainly understand fully what
16 Your Honor is explaining about the practicality
17 of the burden on the Court in making a decision
18 --

19 THE COURT: No. See it's not a --
20 I always get concerned that what went on in the
21 courtroom isn't clear. So when we draft an
22 opinion, we track that transcript and exhibits
23 that came in under a witness, and like I'm not
24 even sure, because all the exhibits that -- when

1 you talk about like translated exhibits, I mean,
2 I don't know what they're translated to and
3 from.

4 But just to have a deep exhibit
5 list isn't going to help you at least here
6 because we're going to track the transcript. So
7 I'm just trying to tell you that when you write
8 the proposed findings of fact and the
9 conclusions of law and the argument, that's the
10 the tracking you ought to do.

11 Now, I understand Mr. Shulman's
12 point that well, if there has been some
13 testimony outside of the notice of the expert
14 report and we've got the report in, apparently
15 you have admitted some expert reports, we might
16 take a look at that, comparing it to the
17 argument and then, you know, making a comment
18 about it in the transcript.

19 But then that's a very limited
20 purpose. But when I hear all these numbers and
21 all these descriptions of exhibits, I'm sure
22 there is enough clerks in your law firms from
23 the Federal Circuit and having been there a
24 couple of times, they don't look at them.

1 MR. SHULMAN: I agree, Your Honor.
2 I think everybody was trying to be safe than
3 sorry.

4 THE COURT: And that's okay.

5 MR. SHULMAN: They're probably
6 over safe.

7 THE COURT: And that's okay. I
8 just don't want you to think that I'm going to
9 look at all those exhibits.

10 MR. BONO: Your Honor, I
11 understand exactly what you're saying. And I
12 think the purpose of just putting in all these
13 exhibits is neither side wants to have it turn
14 up that there is some fact, isolated fact that's
15 not supported by some record evidence.

16 THE COURT: Here is where I'm
17 going to help you. Instead of having all that
18 valuable legal talent wasted on that effort,
19 because I would probably let you have it in
20 later anyway if it's that one critical document
21 that was missed, it's a bench trial, it's not
22 like we're going to get a verdict and everybody
23 is going home and we're left, this is still a
24 work in progress, sort of. So if you find

1 something like that, I'll let it in the record,
2 absent some extraordinary undue prejudice, which
3 I imagine would be hard to establish given the
4 nature of the case and what you have put on
5 already.

6 But I would be more focused on --
7 well, what I said in the transcript and what
8 exhibits have been passed around, flashed up,
9 because that's what we have been tracking, and
10 we'll probably utilize -- sort of like in the
11 old days when somebody would say can you have
12 discovery, give them a key to the room or the
13 building, let them go wherever they wanted to go
14 in there, but I don't do that.

15 So but I think you understand what
16 I'm saying, so you'll track your papers so that
17 you'll be able to argue where I made the mistake
18 when you get to the next level.

19 MR. SHULMAN: Your Honor, we have
20 the good fortune of being able to go home now.
21 Unfortunately he doesn't. But it's been a
22 pleasure trying the case. We enjoyed it.

23 THE COURT: We enjoyed having you.

24 MR. SHULMAN: And you guys should

1 have fun next week or the week after.

2 THE COURT: It's always enjoyable
3 and we like having you here. We're going to
4 start up on the 16th. We'll be getting a little
5 order again to set out what you have to do and
6 the times.

7 There is going to be a little bit
8 of adjustment because I have I think on one day
9 a Markman hearing, like at four o'clock or 4:30
10 in the afternoon, so I'm going to accommodate
11 that. I might start you earlier or go later
12 another day. So you don't have to worry about
13 any of this, you're going to be back to sunny
14 California.

15 MR. SHULMAN: That's right.

16 THE COURT: Thank you.

17 (Court recessed at 6:31 p.m.)
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1 State of Delaware)
2)
3 New Castle County)
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5 CERTIFICATE OF REPORTER
6

7 I, Heather M. Triozzi, Registered
8 Professional Reporter, Certified Shorthand Reporter,
9 and Notary Public, do hereby certify that the
10 foregoing record, Pages 1322 to 1510 inclusive, is a
11 true and accurate transcript of my stenographic notes
12 taken on June 8, 2009, in the above-captioned matter.
13

14 IN WITNESS WHEREOF, I have hereunto set my
15 hand and seal this 8th day of June, 2009, at
16 Wilmington.
17

18
19 _____
20 Heather M. Triozzi, RPR, CSR
21 Cert. No. 184-PS
22
23
24